

Future to Discover: Fourth Year Post-secondary Impacts Report

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Executive Summary

This report presents the latest results from the Future to Discover project. It is the first in a new series that will be produced for New Brunswick, evaluating new ways to tackle a key challenge provinces face in meeting their future needs for skilled workers: engaging enough young people in post-secondary education. Promotion of high school students' access to post-secondary education is a major goal of Canadian governments, in part because of its increasingly important role in helping individuals attain social and economic success. Yet uncertainty remains as to the best policy interventions to encourage students to make the transition.

Future to Discover tested two interventions, separately and in combination. The research design produces rigorous evidence about what works to increase access to post-secondary education, particularly for lower-income students and those whose parents have little or no post-secondary experience. Future to Discover offered either or both of two interventions in early high school:

- *Explore Your Horizons* (EYH) that offered enhancing early career education in workshop sessions run after school for Grades 10, 11, and 12;
- *Learning Accounts* (LA) a “guarantee” of a \$8,000 grant to pursue PSE, made to lower-income students;
- *Explore Your Horizons plus Learning Accounts* (EYH+LA), whereby some students received offers of both interventions.

All the results of this report are presented for lower-income students (from families with below-median income) and are summarized in Table ES1.

The key impacts:

Enrolment. In this report, as earlier, both interventions have strong and significant positive impacts on enrolment in post-secondary education (defined for this report as university and college enrolment). The impacts persist over time. However, the story is more complicated when the impacts on types of post-secondary education are considered.

The results to date show that the different types of intervention increase participation in very different types of post-secondary program. The EYH intervention – enhancing early career education from Grade 10 – had significant positive impacts on enrolment in university but not on enrolment in college. The opposite pattern was seen for Learning Accounts on its own. When the interventions are combined, the results largely follow the pattern for EYH.

Graduation. This report is the first on *Future to Discover* to consider program graduation rates. For most participants, the data available cover four years since they left high school. The differences in graduation rates match differences in enrolments by program type. EYH induced more students into typically longer university programs, and has yet to generate significant impacts on graduation from post-secondary education. LA induced students into typically shorter college programs and generated striking impacts on post-secondary graduation. Thus, although both interventions induced higher enrolments, providing enhanced career education to students (in the EYH intervention) and providing

a promise of funding to them (LA intervention) lead to different pathways and outcomes. As new administrative data become available, future reports will confirm the longer-term development of these patterns.

Student aid. EYH has a strong and consistent positive impact on the proportion of students receiving student financial aid. LA, which itself offered a type of aid, had no impact. Furthermore, students offered EYH did not receive statistically larger amounts from student aid, whereas students offered LA received lower amounts of funding. These results are consistent with the nature of the interventions (EYH improving knowledge about post-secondary education and LA providing grants) and with some students being debt-adverse, and thus minimizing take up of loans where possible.

Subgroups of interest. Notably, both interventions produced significant impacts on enrolments, graduation (LA and EYH+LA) and receipt of student aid for students from lower-education backgrounds, and for boys, which suggests that the interventions worked well to target key groups with traditionally lower rates of post-secondary attendance. Broadly, Francophone students were more likely to experience post-secondary impacts than Anglophone students. Earlier reports had noted the interventions' impacts on delayed high school graduation for Anglophone students. Given that the interventions have likely altered the speed of students' progress along education pathways as well as direction, later reports in this series will need to analyze the cumulative effect of each intervention for these different groups separately. Updated reports will be available in late 2014, 2015, and 2016.

Other impacts:

Switching institutions and dropping out. As expected, both interventions have only modest impacts on ever switching institutions. A negative effect could have been expected on the numbers of students leaving or dropping out, but the impacts are indistinguishable from zero for EYH and for EYH plus LA yet modestly positive for LA. There are two possible explanations for this last result. On one hand, LA might cause some students to enter post-secondary education who realize that it was not the best choice for them and drop out. On the other, any intervention that increases the proportion of a population engaged in an activity is also raising the proportion of the population dropping out of it, without necessarily raising the *rate* at which they drop out.

Future reports. Updated reports will be available in late 2014, 2015, and 2016.

Table ES1 Summary of impact results for each Future to Discover intervention, including by subgroups

Intervention	Sub-groups	Intervention impact on post-secondary outcomes, expressed as difference from control group outcome							
		Ever enrolled in university or college (%)	Ever enrolled in university only (%)	Ever enrolled in college only (%)	Ever graduated from any PSE institution (%)	Ever switched between PSE institution (%)	Ever left PSE institutions (%)	Ever received student aid (%)	Student aid received (\$)
EYH (see Section 3)	All	+5	+5					+6	
	LILE	+10	+8					+10	+2,200
	FGF							+8	
	Parents with any PSE								
	Boys					+4		+10	
	Girls	+9							
	Francophone	+11	+10					+9	
	Anglophone								+3,100
LA (see Section 4)	All	+7		+8	+7				-1,900
	LILE	+11		+10	+9				
	FGF	+15		+11	+11				
	Parents with any PSE		-7	+8	+7		+5		-2,400
	Boys	+8		+9	+11				
	Girls				+6				-3,700
	Francophone	+13		+9	+11		+5		
	Anglophone			+8	+7	+3			-2,900
EYH+LA (see Section 5)	All	+6	+5		+5	+2			
	LILE	+10	+7	+5	+8			+7	
	FGF	+8	+7		+6				
	Parents with any PSE					+4			
	Boys	+10	+8		+8	+3		+13	
	Girls								
	Francophone	+10	+7		+6				
	Anglophone					+3			

The number indicates the size and direction of the impact brought about by each intervention, in percentage points or dollars. Only impacts found statistically significant at a minimum 10 per cent level of significance are shown. The analysts' subjective assessment of the importance of each change in outcomes brought about by each impact, relative to the 'normal' level of the outcome observed in the control group, is indicated with darker shading for greater importance.

Introduction

- ***Future to Discover* was established as a pilot project by the Canada Millennium Scholarship Foundation and the provincial governments of Manitoba and New Brunswick.** It aims to develop evidence about what works to increase access to post-secondary education, particularly for lower-income students and those whose parents have little or no post-secondary experience. Research indicates that such students are under-represented in post-secondary education.
- ***Future to Discover* was designed to find out whether either or both of the following interventions would increase access to post-secondary education:**
 - **Explore Your Horizons**, which encompasses enhanced career education components designed to help high school students: to improve their knowledge of the role of post-secondary education and how they might access it; to explore their future options through career education; and to provide guidance to their parents on how to support their children through this process.
 - **Learning Accounts**, a financial incentive designed for high school students in New Brunswick with family incomes below the provincial median. It provides an early guarantee of a grant worth up to \$8,000, conditional upon high school completion and subsequent participation in post-secondary education.
- **To date, there have been three reports on the implementation and impacts of *Future to Discover's* interventions.** The impact of *Future to Discover's* interventions is measured using a rigorous random-assignment design, in which groups of students who are offered either or both of the interventions are compared to statistically-identical groups of students who do not receive the interventions. The complex research design takes into account linguistic and other population designations of interest. Data on outcomes have been collected from numerous sources including surveys, observations and administrative data. Earlier reports found the interventions had been implemented with high fidelity and thus given a fair test. Recruitment and random assignment were successful. There were impacts from both interventions on participants' orientations toward the future, high school graduation and post-secondary enrolment. These impacts differed considerably between groups (including provinces, linguistic sectors, and key sub-groups). The benefit-cost analysis found both interventions economically viable, separately, and in combination, in New Brunswick.
- **This is the first of a new series of *Future to Discover* research reports, the focus of which is on the long-term impacts for New Brunswick recipients.** More specifically, the reports deal with the impact of the interventions on New Brunswick participants' post-secondary participation, persistence and completion as well as labour market outcomes. These results are obtained from administrative data only. This report – including university, college and student financial aid outcomes – is the first of four planned for the series. Later reports will add other administrative data sources as they become available.

Overview of the interventions

- **Explore Your Horizons.** *Explore Your Horizons* (EYH) was the career education intervention implemented in both Manitoba and New Brunswick. It comprises six integrated components: (1) Career Focusing, (2) Lasting Gifts, (3) Future in Focus, (4) Post-secondary Ambassadors, (5) the Future to Discover Web site, and (6) the F2D magazine.¹ All participants in the intervention were offered all six components over three years of programming, through Grades 10, 11, and 12 of high school.

Explore Your Horizons is intended to facilitate participants' development of their own post-secondary plans, based on their passions and interests. It engages parents as allies and existing post-secondary students as role models, providing enhanced career education beginning in Grade 10.

Each component of *Explore Your Horizons* is designed to teach and reinforce key concepts of career exploration and development, whether these are personal (e.g., the concepts of resilience and adaptability), technical (e.g., how to network), or tactical (e.g., "manoeuvring" as a deliberate strategy to explore different career options). When feasible, the developers of the various components and the delivery personnel collaborated to ensure that *Explore Your Horizons* components were cohesive and well integrated.

The involvement of parents/guardians is a fundamental feature of the *Explore Your Horizons* intervention, in terms of both their participation and their support for their child in the career exploration process. Parents/guardians were invited to attend sessions with their children at the start of the intervention, midway, and at the end.

All *Explore Your Horizons* workshops took place in classrooms at participating schools, after the last class of the day. The main exceptions were those to which parents were invited, which took place in the evenings to accommodate parents' schedules. Facilitators with a career counselling or education background were hired to animate the sessions, except for the Post-secondary Ambassador workshops, which were animated by students already enrolled in post-secondary education. The sessions were voluntary and so did not reach everyone in the program groups assigned to receive them. Of the 20 workshops, 84 per cent of participants attended at least one, but only 60 per cent attended six or more.

- **Learning Accounts.** *Learning Accounts* (LA) was implemented only in New Brunswick. Stakeholders in the project agreed on an eligibility criterion for the *Learning Accounts* intervention based on families having annual household income below the New Brunswick median.² A major assumption underlying its development was that lower-income students anticipate having inadequate financial resources to pay for their post-secondary education, particularly university and college. *Learning Accounts* participants who attended a New Brunswick high school until

¹ For a description of the various component, see Ford et al. (2012).

² Family income was determined from amounts reported for income tax purposes, and the median cut-off was derived from Census 2001 estimates for households with children aged 6-17 years and rounded up to the nearest \$5,000 level.

graduation and who successfully enrolled in a post-secondary education program (recognized by Canada Student Loans) would receive up to a maximum of \$8,000 over two years to subsidize their post-secondary education expenses.

- The accumulation of funds over time in Learning Accounts was intended to recognize each participant's continued commitment to education. Thus, participants in Learning Accounts had to still be attending a New Brunswick high school at the end of Grade 10 to receive an instalment of \$2,000 in their account, and they had to still be attending a New Brunswick high school at the end of Grade 11 to receive another \$2,000. Thereafter, Learning Accounts participants who successfully graduated from a New Brunswick high school would have another instalment of \$4,000 added to the account.³ If they successfully enrolled in a post-secondary education program, they could draw from the accumulated funds in their account. Once their enrolment status had been confirmed, Learning Accounts participants could request a \$2,000 payment twice per academic year, for a total maximum of \$8,000 in a two-year period. The check on enrolment was performed by New Brunswick Student Financial Services or the New Brunswick Apprenticeship Bureau (for registered apprentices), and all funds had to be claimed within six years of the account being offered at the start of Grade 10.⁴

Context of this report among other reports

- This report presents post-secondary impacts observed by the completion of what would normally be the fourth year of post-secondary studies, assuming continuous school attendance and conventional progress. It relies on data from academic years 2004/2005 through to 2011/2012, and thus adds two extra academic years of data to the FTD post-secondary impacts report (Ford et al., 2012) which was the first to present impacts on students' participation in post-secondary education.
- The additional years of data permit the updating of results with respect to enrolment in university and/or college. However, they also offer the opportunity to analyze new outcomes that were not feasible previously. These new outcomes include impacts on the following outcomes (precise definitions will be discussed in the next section):

³ Access to the maximum amount is conditional on completion of secondary studies within four years of opening the account. Upon successful completion of secondary studies in New Brunswick through a high school diploma, Adult Education Diploma, or a general Education Development diploma, participants are entitled to the full bursary of \$8,000 in their accounts. Students not completing secondary studies within the timeframe remain entitled to past instalments in their accounts.

⁴ It is important to note that, unlike *Explore Your Horizons*, there was no fixed year for *Learning Accounts* delivery; rather, instalments and payments could be made over several years. A student who took three years to complete grades 10 through 12 at a New Brunswick school was entitled to receive a payment in any two of the three years following his or her graduation, and the payment amount would depend on the number of instalments in the student's account. For example, a student who had accumulated \$4,000 in his or her account by the end of Grade 11 but who graduated from a Quebec school (rather than a New Brunswick school) before enrolling in a post-secondary education program would receive \$4,000, made available during the delivery period for *Learning Accounts*.

- students graduating from post-secondary institutions;
- students continuing their studies;
- students switching across post-secondary institutions; and
- students leaving post-secondary education (dropping out).

This report is therefore the first time such key post-secondary education impacts of FTD interventions have been presented.

- As the project's design and implementation phases are over, the report concentrates on presenting post-secondary impact results. The report does not include specific evidence on apprenticeship and private vocational college since data on such programs are not yet available to SRDC.
- Later reports will essentially have the same structure as this one but with additional years of data. However, SRDC anticipates that outcomes for apprenticeships and private vocational college will also be included in future. Importantly, the intent for the final report (in 2016) is to include additional results retrieved from income tax data, including impacts on income and employment.
- The report is primarily focused on the presentation of the interventions' impacts. The next section provides an overview of the *Future to Discover* research sample and outcomes of interest. Sections 3 and 4 respectively present the results from *Explore Your Horizons* and *Learning Accounts* followed, in section 5, by the results from combining both interventions. Section 6 concludes the report with a synthesis and analysis of the results.

Overview of *Future to Discover*'s research samples and outcomes of interest

Research samples

- New Brunswick has two separate education systems for Francophone and Anglophone students, the former serves approximately half the number of students as the latter. Recruitment for *Future to Discover* in New Brunswick took place over two years in order to secure a sufficiently large sample of participants to detect policy-relevant impacts. As a result, students in two successive Grade 9 years were recruited in 2004 and 2005 and became part of either Cohort 1 or Cohort 2, respectively. The report uses the term “relative year #” to refer to the equivalent academic year reached by each cohort in its educational experience. Table 2.1 shows the correspondence between the academic and “relative years” used in this report.

Table 2.1 Alignment of academic year, relative year, and data coverage

Academic year	Relative years/Grade	
	Cohort 1	Cohort 2
2004/05	Relative year 1= high school year 2 (i.e., Grade 10)	Grade 9
2005/06	Relative year 2= high school year 3 (i.e., Grade 11)	Relative year 1= high school year 2 (i.e., Grade 10)
2006/07	Relative year 3= high school year 4 (i.e., Grade 12)	Relative year 2= high school year 3 (i.e., Grade 11)
2007/08	Relative year 4= PSE year 1	Relative year 3= high school year 4 (i.e., Grade 12)
2008/09	Relative year 5= PSE year 2	Relative year 4= PSE year 1
2009/10	Relative year 6= PSE year 3	Relative year 5= PSE year 2
2010/11	Relative year 7= PSE year 4	Relative year 6= PSE year 3
2011/12	Relative year 8= PSE year 5	Relative year 7= PSE year 4

- **Treatment of income: LA-eligible and LA-ineligible groups**

The sample allocation in *Future to Discover* is complicated by the fact that Learning Accounts can be offered only in New Brunswick to participants with a verified family income below the specified cut-off level for a given family size.⁵ During in-home baseline interviews, Statistics Canada interviewers requested each parent’s total income as recorded on Line 150 of their previous year’s tax return(s). Parents in families providing this information and who were verified as below the

⁵ The cut-offs correspond to the median family income in New Brunswick from published 2001 Census data. Separate cut-offs were used for families of different sizes.

required cut-off, signed the Learning Accounts-eligible (“LA-eligible”) consent form. This form explained that they were eligible for assignment to one of the four following groups:

- a comparison group,
- a group that would receive Explore Your Horizons only,
- a group that would receive Learning Accounts, only,
- a group that would receive both interventions combined.

Families who were verified as having income above the required cut-off or who were unwilling to provide information from Line 150 were deemed ineligible for Learning Accounts (“LA-ineligible”) and received a different consent form. That form established the possibility of assignment either to Explore Your Horizons or to the comparison group, but not Learning Accounts.

One consequence of the above approach to determine project eligibility was that it placed some lower-income families — those unwilling to provide income information from their tax returns — in the otherwise higher-income “LA-ineligible” group. Survey data suggests that this was the case. The families who were unwilling to provide income information from Line 150 of their tax returns were asked to report income via a standard set of survey income questions, and virtually all did so. The proportion of families deemed “LA-ineligible” who nonetheless reported survey income that fell below the “LA-eligible” threshold was around one in seven. Among Francophone LA-ineligible participants, 14.3 per cent fell below the lower income threshold on the survey measure. Among Anglophone LA-ineligible participants, 12.9 per cent fell below the lower income threshold on the survey measure. A more complete explanation is provided in SRDC (2007).

For comparability between the interventions, results are presented primarily for verified lower-income (i.e., LA-eligible) families in this report. It is important to note that the impacts of Explore Your Horizons on higher-income families *and one in seven lower-income families* are not being reported. On average these LA-ineligible families have higher post-secondary participation rates and so the interventions usually produce smaller or no impacts for such families.

- Table 2.2 shows the different experimental contrasts or comparisons that can be examined. In the interests of brevity, the report focuses on the impacts described in the first three rows which compare impacts of the interventions relative to the normal career education and student aid experiences of students (the “counterfactual”) and do not include results comparing one type of intervention to another.

Table 2.2 The experimental contrasts in this Future to Discover report

Sample	Experimental contrast(s)	Contribution to impact analysis
NB LA-eligible sample	<i>EYH</i> versus comparison group	Impacts of offering EYH to lower-income families (see Section 2)
	<i>LA</i> versus comparison group	Impacts of offering LA to lower-income families (see Section 3)
	<i>EYH</i> plus <i>LA</i> versus comparison group	Impacts of offering EYH with LA to lower-income families (see Section 4)
	<i>EYH</i> versus <i>LA</i>	The relative impact of offering one intervention to lower-income families (not included)
	<i>EYH</i> plus <i>LA</i> versus <i>LA</i>	The incremental impact of offering EYH in addition to LA to lower-income families (not included)
	<i>EYH</i> plus <i>LA</i> versus <i>EYH</i>	The incremental impact of offering EYH in addition to LA to lower-income families (not included)

- The impact analysis presented in this report is always experimental: it compares outcomes across statistically equivalent program and comparison groups to determine the effects of the interventions. Random assignment of students to intervention groups ensures that the only systematic difference between the groups is the intervention offer that each group received. For example, in Section 2, the difference on any given outcome between the group offered *Explore Your Horizons* and the comparison group receiving no program offer is the estimate of the impact of *Explore Your Horizons* on the outcome (for verified lower-income families). The same is true for the impact estimates of *Learning Accounts* in Section 3, the statistically equivalent comparison group used in the analysis is precisely the same as the group used in the *Explore Your Horizons* comparison.

Sub-group definitions

- The report presents principal results that combine the Francophone and Anglophone samples. Results for the Francophone and Anglophone groups are presented separately in the sub-group analysis.
- The project seeks to determine the impacts of the interventions on students most likely to need additional support to access post-secondary education. These were identified at the outset as those whose families have lower incomes and whose parents have little or no experience of post-secondary education. Specifically, the results of the report are broken down across the following sub-groups:
 - the LILE (lower-income and lower parental education) sub-group. Among lower-income families the distinguishing feature of this group is lower parental education which is defined as not holding a post-secondary diploma, certificate, or degree requiring two or more years of study;

- the FGF (“first generation” families) sub-group comprises students whose parents have no post-secondary experience at all (that is, the highest education level of both parents at baseline was “high school or less”). Among lower-income families, this is a sub-group of the LILE group. FGF and non-FGF are included in tables to preserve continuity from earlier reports and comparability with other researchers’ work, but impacts for FGF are not discussed in the text;
- Boys and girls sub-groups; and
- Francophone and Anglophone sub-groups.

Outcomes of interest

The outcomes of interest cover seven relative years (i.e., seven years after random assignment). The seventh relative year would “normally” be the fourth year of post-secondary studies, assuming continuous school attendance and progression to post-secondary education. Previous results have reported (in Ford et al., 2012) just to the beginning of the third post-secondary year. It should be noted that some students may still have been in secondary education in the fourth and later relative years if they took more than one year to complete any of Grade 10, Grade 11, or Grade 12. Some students would also be working or unemployed in these years. There are eight types of outcomes of interest to be discussed in the results sections below:

- **Enrolment in university and college:** denotes enrolment by academic year in any university (Bachelors) and college institutions in New Brunswick. The coverage for universities actually includes all of the Maritime provinces. Enrolments are analyzed separately for each relative year as well as cumulatively for the entire period;
- **Enrolment in university:** denotes enrolment by academic year in any university (Bachelors) in New Brunswick and, due to the data sources available, all of the Maritime provinces. Enrolments are analyzed separately for each relative year as well as cumulatively for the entire period;
- **Enrolment in college:** denotes enrolment by academic year in New Brunswick Community College or Collège communautaire du Nouveau-Brunswick. Enrolments are analyzed separately for each relative year as well as cumulatively for the entire period;
- **Graduation from university or college:** denotes graduation from university or college institutions in New Brunswick. Graduation rates are analyzed separately as well as cumulatively for the entire period. A student was counted as having graduated in a year if she or he graduated at any point up to the anniversary of enrollment;
- **Continuing studies in university and college:** inspired by Finnie and Qiu (2009), this variable denotes students who in a given academic year had not graduated but who were enrolled in the same university or college *program* in New Brunswick, regardless of whether enrolment was at the same institution or not.⁶ The rates are analyzed separately for each relative year. In the context of

⁶ It should be noted that this definition differs from Finnie and Qiu (2009) who defines continuer in a given year as a student who “had not graduated but was identified as still being enrolled at the original”

FTD, the expectation was that more students in Explore Your Horizons or Learning Accounts would continue their studies until they graduated, since more would have had sufficient information or financial incentives from the interventions to make a firm decision about their post-secondary education;

- **Switching institutions:** inspired by Finnie and Qiu (2009), this variable denotes students who in a given academic year had switched institution (university or a college).⁷ The rates are analyzed separately for each relative year as well as cumulatively for the entire period. In the context of FTD, the expectation is that students in Explore Your Horizons or Learning Accounts would switch less often, since they would have had sufficient information and financial incentives to make a firm decision about their post-secondary education;
- **Leaving/dropping out of university or college:** inspired by Finnie and Qiu (2009), this variable denotes, in a given academic year, students who have left any university or college institution in New Brunswick before graduating (this could include students who nonetheless eventually return to post-secondary education at a later date). In the context of FTD, the expectation is that students in Explore Your Horizons or Learning Accounts would be less likely to be leavers or dropouts, since they would have had sufficient information and financial incentives to make a firm decision about their post-secondary education. Very high impacts on enrolment could nonetheless lead to more leavers in the whole sample. In this event, the interventions would be expected to have produced a lower proportion of leavers among all those ever enrolled in post-secondary education;
- **Receiving student aid:** denotes students who received student aid (loans and/or grants) while attending any post-secondary institution (i.e., not necessarily university nor college). The rates are analyzed separately for each relative year as well as cumulatively for the entire period.

It should be noted that there is a discrepancy in the analysis between the initial project definition of post-secondary enrolment and the reported impacts on “university and college” enrolment. SRDC has yet to receive data covering private vocational institutes and apprenticeships. Future reports are expected to utilize such data and thus report on the full set of post-secondary outcomes.

institution at the end of the reporting year in question.” Furthermore, the authors define “continuing” with respect to *institution* rather than *program*.

⁷ Finnie and Qiu (2009) also define “switching” with respect to institutions.

Post-secondary impacts of *Explore Your Horizons*

Summary of the results

- The results from this section and the two that follow apply to the New Brunswick lower-income sample only (i.e., students potentially eligible for *Learning Accounts*). This same sample selection is used for comparability.
- **Students offered the *Explore Your Horizons* intervention were significantly more likely to enroll in post-secondary education** (Table 3.1). This was particularly true for LILE students, Francophone students and girls (increases in post-secondary participation were eleven, eleven and nine percentage points, respectively). The increase in university and college enrolments was largely driven by university enrolments. Indeed, it can be seen that the intervention's impacts on university enrolments (Table 3.2) were similar to those on both types of post-secondary education combined (Table 3.3).

More light is shed on the differences made by EYH by looking at enrolment in each relative year. Consistently positive impacts for the intervention are observed at or after the fourth relative year (i.e., four years after random assignment). This is the year students are most likely to enter post-secondary education institutions. For instance, even though enrolment rates for both the EYH and the control group peak together in the fourth relative year, the enrolment rates for the EYH group remain consistently higher with impacts peaking at five percentage point in the sixth relative year (Figure A1.1).⁸ Large impacts on university and college enrolments are observed in the sixth and seventh relative years for the LILE group (respectively six and five percentage points, Figure A1.2). Interestingly, positive impacts appear earlier in time in the Francophone sector than in the Anglophone sector (Figure A1.5).

It is worth noting that enrolments in university only (Figure A1.6) follow the same trends as depicted in Figure A1.1. When results are broken down by linguistic sector it is clear that Francophone students account for much of the overall impact (Figure A1.10).

The trends in college enrolments are the same for the EYH and control groups (Figure A1.11). They both peak in the fourth year, and then follow a downward trend. Their levels are close to each other, translating in low impacts of EYH on college enrolment, below the ones observed for university. There are no effects on college enrolments by LILE status, gender and linguistic group (Figures A1.12, A1.14, and A1.15, respectively).

- **Over the period covered by this report, students offered EYH were not more likely to have graduated from university or college** (Table 3.4). This result can be explained by the increased enrolment rates in university rather than at college induced by FTD. Specifically, the EYH intervention encouraged students differentially to take up university programs and it takes longer to graduate university. Therefore, in the time window currently available, relatively few of the

⁸ Note that figures depict some students enroll in post-secondary programs while still studying in high school. Universities offering dual credit course to high school students may account for this "early" enrollment.

students additionally motivated to take up post-secondary education by the intervention have graduated.

- **Consistently across relative years, subgroups of interest (e.g., LILE group and Francophone students) that were offered the EYH were significantly more likely to continue with their studies in university or college.** The proportions continuing in post-secondary education are reported in Figure A1.16. There is a statistically significant and sizable (around five percentage points) impact for the LILE group during most of the relative years after and including the fourth relative year (Figure A1.17). Furthermore, EYH has significant impacts on boys in the sixth relative year (Figure A1.19). The positive effects are consistently significant for Francophone youth (Figure A1.20).
- **EYH had limited impacts on students ever switching institutions.** EYH was hypothesized to improve career decisions, which in turn might lower students need to change programs of study, but only institutional switches could be measured here. Boys' patterns of switching have been significantly affected by EYH with an increase of four percentage points (Table 3.5). The trends are reported in Figure A1.21 where, in general, impacts are low. There are no statistically significant changes in levels of switching institutions by LILE status nor linguistic sector (Figures A1.22 and A1.25). The marginally significant effect for boys occurs in the seventh year (Figure A1.24).
- **EYH recipients do not drop out of university or college more than control group members** (Table 3.6).
- **Students offered EYH were more likely to receive student aid** (Table 3.7). This was true for most groups of interest: the LILE group, boys (ten percentage points), and Francophone students (nine percentage points).
- **Typically, students offered EYH did not receive statistically different amounts of student aid** (Table 3.8). The only exceptions are Francophone (who received \$3,112 more on average) and the LILE group (\$2,219 more). Hence, it seems that EYH recipients in general have better access to student aid, but this does not necessarily lead to higher average payments.

Impacts of offering Explore Your Horizons

Enrolment in university and college

Table 3.1 EYH impacts on university+college enrolment – combined Anglophone and Francophone

	New Brunswick			
	EYH Group	Comparison Group	Impact (s.e)	
Ever enrolled in university and college (%)				
ALL	50.05	45.13	4.92 (2.92)	*
LILE	48.59	38.50	10.09 (3.17)	***
Parents with High school or less (FGF)	40.59	33.96	6.62 (4.10)	
Parents with any PSE (Non-FGF)	60.57	57.88	2.70 (4.60)	
Boys	42.34	41.84	0.51 (5.05)	
Girls	56.99	47.82	9.17 (4.26)	**
Francophone	60.65	49.70	10.95 (4.31)	**
Anglophone	41.80	39.62	2.18 (4.01)	
Sample size	432	601		

Source: FTD administrative data from relative years 1 to 7.

Notes: Estimates regression adjusted. Sample sizes vary for individual measures because of missing values.

Statistical significance levels are indicated as * = 10 percent, ** = 5 percent, *** = 1 percent.

Rounding may cause slight discrepancies in sums and differences.

Enrolment in university

Table 3.2 EYH impacts on university enrolment – combined Anglophone and Francophone

	New Brunswick			
	EYH Group	Comparison Group	Impact (s.e)	
Ever enrolled in university (%)				
ALL	28.03	22.98	5.05 (2.67)	*
LILE	25.85	18.15	7.71 (2.87)	***
Parents with High school or less (FGF)	18.10	14.17	3.93 (3.43)	
Parents with any PSE (Non-FGF)	39.32	32.72	6.60 (4.23)	
Boys	18.92	14.05	4.88 (3.66)	
Girls	36.37	30.36	6.01 (3.92)	
Francophone	33.12	22.65	10.47 (3.81)	***
Anglophone	24.97	22.04	2.93 (3.68)	
Sample size	432	601		

Source: FTD administrative data from relative years 1 to 7.

Notes: Estimates regression adjusted. Sample sizes vary for individual measures because of missing values.

Statistical significance levels are indicated as * = 10 percent; ** = 5 percent; *** = 1 percent.

Rounding may cause slight discrepancies in sums and differences.

Enrolment in college

Table 3.3 EYH impacts on college enrolment – combined Anglophone and Francophone

	New Brunswick		
	EYH Group	Comparison Group	Impact (s.e)
Ever enrolled in college (%)			
ALL	23.86	24.15	-0.29 (2.62)
LILE	23.31	21.79	1.53 (2.88)
Parents with High school or less (FGF)	23.03	19.74	3.29 (3.72)
Parents with any PSE (Non-FGF)	25.10	29.12	-4.02 (4.07)
Boys	24.53	26.25	-1.73 (4.17)
Girls	23.12	22.48	0.65 (3.76)
Francophone	34.29	31.48	2.81 (4.19)
Anglophone	15.01	16.62	-1.60 (3.19)
Sample size	432	601	

Source: FTD administrative data from relative years 1 to 7.

Notes: Estimates regression adjusted. Sample sizes vary for individual measures because of missing values.

Statistical significance levels are indicated as * = 10 percent; ** = 5 percent; *** = 1 percent.

Rounding may cause slight discrepancies in sums and differences.

Graduating from university or college

Table 3.4 EYH impacts on graduating from university or college – combined Anglophone and Francophone

	New Brunswick		
	EYH Group	Comparison Group	Impact (s.e)
Ever graduated from university or college (%)			
ALL	13.12	13.72	-0.59 (1.92)
LILE	13.65	12.45	1.20 (2.09)
Parents with High school or less (FGF)	14.68	10.95	3.73 (2.66)
Parents with any PSE (Non-FGF)	11.55	16.98	-5.43 (3.35)
Boys	15.04	13.99	1.06 (3.41)
Girls	12.46	12.76	-0.29 (2.97)
Francophone	16.85	18.56	-1.71 (3.37)
Anglophone	9.12	9.57	-0.45 (2.58)
Sample size	432	601	

Source: FTD administrative data from relative years 1 to 7.

Notes: Estimates regression adjusted. Sample sizes vary for individual measures because of missing values.

Statistical significance levels are indicated as * = 10 percent; ** = 5 percent; *** = 1 percent.

Rounding may cause slight discrepancies in sums and differences.

Switching institutions (university or college)

Table 3.5 EYH impacts on switching institution – combined Anglophone and Francophone

	New Brunswick		
	EYH Group	Comparison Group	Impact (s.e)
Ever switched institutions (%)			
ALL	8.46	6.91	1.55 (1.52)
LILE	7.61	6.08	1.53 (1.61)
Parents with High school or less (FGF)	6.27	5.28	0.99 (1.99)
Parents with any PSE (Non-FGF)	11.68	8.12	3.56 (2.55)
Boys	7.62	3.48	4.14 (1.91) **
Girls	9.41	9.68	-0.27 (2.48)
Francophone	13.18	10.15	3.03 (2.85)
Anglophone	4.58	3.48	1.10 (1.78)
Sample size	432	601	

Source: FTD administrative data from relative years 1 to 7.

Notes: Estimates regression adjusted. Sample sizes vary for individual measures because of missing values.

Statistical significance levels are indicated as * = 10 percent; ** = 5 percent; *** = 1 percent.

Rounding may cause slight discrepancies in sums and differences.

Leaving university or college

Table 3.6 EYH impacts on leaving university or college – combined Anglophone and Francophone

	New Brunswick		
	EYH Group	Comparison Group	Impact (s.e)
Ever left university or college (%)			
ALL	10.76	10.58	0.18 (1.87)
LILE	9.68	9.94	-0.26 (2.14)
Parents with High school or less (FGF)	9.15	9.47	-0.32 (2.63)
Parents with any PSE (Non-FGF)	13.13	11.38	1.75 (2.80)
Boys	9.46	13.00	-3.54 (2.95)
Girls	10.83	9.29	1.54 (2.52)
Francophone	15.93	11.26	4.66 (3.03)
Anglophone	7.29	8.94	-1.65 (2.33)
Sample size	432	601	

Source: FTD administrative data from relative years 1 to 7.

Notes: Estimates regression adjusted. Sample sizes vary for individual measures because of missing values.

Statistical significance levels are indicated as * = 10 percent, ** = 5 percent, *** = 1 percent.

Rounding may cause slight discrepancies in sums and differences.

Receiving student aid

Table 3.7 EYH impacts on receiving student aid – combined Anglophone and Francophone

	New Brunswick			
	EYH Group	Comparison Group	Impact (s.e)	
Ever received student aid (%)				
ALL	51.06	44.74	6.33 (2.86)	**
LILE	52.74	42.32	10.43 (2.96)	***
Parents with High school or less (FGF)	47.61	39.65	7.96 (3.77)	**
Parents with any PSE (Non-FGF)	55.46	50.16	5.30 (4.63)	
Boys	40.65	30.76	9.89 (4.99)	**
Girls	60.95	56.12	4.83 (4.08)	
Francophone	57.25	48.37	8.88 (4.41)	**
Anglophone	46.50	40.44	6.06 (4.22)	
Sample size	432	601		

Source: FTD administrative data from relative years 1 to 7.

Notes: Estimates regression adjusted. Sample sizes vary for individual measures because of missing values.

Statistical significance levels are indicated as * = 10 percent; ** = 5 percent; *** = 1 percent.

Rounding may cause slight discrepancies in sums and differences.

Cumulative amount of student aid received

Table 3.8 EYH impacts on student aid received – combined Anglophone and Francophone

	New Brunswick			
	EYH Group	Comparison Group	Impact (s.e)	
Cumulative amount of student aid received (%)				
ALL	12,218	10,661	1,557 1,023	
LILE	11,920	9,702	2,219 1,067	**
Parents with High school or less (FGF)	9,562	9,137	425 1,201	
Parents with any PSE (Non-FGF)	15,144	12,343	2,801 1,710	
Boys	8,017	6,393	1,624 1,380	
Girls	15,956	14,262	1,694 1,603	
Francophone	13,885	10,772	3,112 1,610	*
Anglophone	11,183	10,172	1,011 1,432	
Sample size	432	601		

Source: FTD administrative data from relative years 1 to 7.

Notes: Estimates regression adjusted. Sample sizes vary for individual measures because of missing values.

Statistical significance levels are indicated as * = 10 percent, ** = 5 percent, *** = 1 percent

Rounding may cause slight discrepancies in sums and differences.

Post-secondary impacts of *Learning Accounts*

Summary of the results

- **Lower-income New Brunswick students offered *Learning Accounts* were significantly more likely to enrol in post-secondary programs over the period covered in this report** (Table 4.1). This impact was seen for Francophone students (whose enrolment increased by 13 percentage points), LILE students (by 11 percentage points) and boys (at 8 percentage points).

The patterns observed for university and college enrolments were driven by college enrolments, which contrasts with *Explore Your Horizons* where the combined enrolment results were driven by university enrolments (previous section). College enrolment impacts followed the same patterns as combined impacts, although the impacts were somewhat smaller (Table 4.3), whereas LA recipients were not induced markedly to enroll in university (Table 4.2).

Consistently, positive impacts for LA recipients are observed at and after the fourth relative year (i.e., four years after random assignment). Enrolment rates for both the LA and the control group peak together in the fourth relative year (Figure A2.1). Although the LA group has higher enrolment rates, the gap compared to the control group shrinks over time, from about four percentage points in relative year five to less than one percentage point in relative year seven. Strong and significant impacts on university and college enrolments are observed in the fourth and sixth relative years for the LILE group (peaking at seven percentage points in relative year five, Figure A2.2) and Francophones (well above ten percentage points in relative years four and five and about eight percentage points in relative year six, Figure A2.5).

The trends for university only enrolments are depicted in Figure A2.6, which shows that the LA and control groups have the same levels of enrolment, hence low program impact estimates.

The trends for college only enrolments are reported in Figure A2.11 and are similar to the ones from Figure A2.1. Strong and significant increases are consistently observed for the LILE group (at or well above four percentage points in relative years four to six, Figure A2.12). Positive impacts on Francophone students seem to precede those of Anglophones (Figure A2.15).

- **Students offered LA were strongly and significantly more likely to graduate from university or college** (Table 4.4). The impacts range from six percentage points for girls to eleven percentage points for boys. Francophone, LILE and Anglophone students experienced increases in graduation rates of ten, nine and seven percentage points, respectively. These represent substantial impacts over levels of graduation in the control group. More graduation at earlier ages can be explained by the additional enrolment in college induced by *Learning Accounts*.
- **Generally, it seems that LA recipients were not significantly more likely to continue with their studies in university or college.** The proportions of students continuing their studies are reported in Figure A2.16. Likely it is early to expect to see changes in postsecondary persistence.
- **Generally, students offered LA were not more likely to have ever switched institutions** (Table 4.5). The trends reported in Figure A2.21 show similar upward trends from the fourth to the

sixth relative year followed by a drop in the seventh year for both the LA and control groups. It follows that the impacts across years were low. Furthermore, the impacts were modest across all subgroups (Figures A2.22 to A2.25).

- **LA recipients experienced modest impacts on ever leaving university or college** (Table 4.6). Francophone students were more likely to have left university or college (by about five percentage points).
- **Students offered LA did not experience any impacts on their propensity to receive student aid** (Table 4.7). The finding that LA has no effect on receiving student aid is consistent with students substituting LA funds for student aid.
- **Students offered LA were more likely to receive lower amounts of student aid** (Table 4.8). Overall, the LA group received about \$2,000 less in student aid funding on average than the control group. Among subgroups, girls (-\$3,721) and Anglophone students (-\$2,895) were significantly affected. This result is consistent with LA recipients applying less and/or being eligible for lower amounts of funding since they are entitled to more resources through the LA grants.

Impacts of offering *Learning Accounts*

Enrolment in university and college

Table 4.1 LA impacts on university and college enrolment – combined Anglophone and Francophone

	New Brunswick			
	LA Group	Comparison Group	Impact (s.e)	
Ever enrolled in university and college (%)				
ALL	51.59	44.89	6.70 (2.86)	**
LILE	49.30	38.64	10.66 (3.26)	***
Parents with High school or less (FGF)	47.81	33.23	14.58 (4.37)	***
Parents with any PSE (Non-FGF)	57.52	56.40	1.12 (4.20)	
Boys	48.83	41.27	7.55 (4.32)	*
Girls	53.64	48.22	5.43 (3.98)	
Francophone	63.41	50.12	13.29 (4.29)	***
Anglophone	42.33	38.46	3.87 (3.77)	
Sample size	544	601		

Source: FTD administrative data from relative years 1 to 7.

Notes: Estimates regression adjusted. Sample sizes vary for individual measures because of missing values.

Statistical significance levels are indicated as * = 10 percent; ** = 5 percent; *** = 1 percent.

Rounding may cause slight discrepancies in sums and differences.

Enrolment in university

Table 4.2 LA impacts on university enrolment – combined Anglophone and Francophone

	New Brunswick		
	LA Group	Comparison Group	Impact (s.e)
Ever enrolled in university (%)			
ALL	21.98	22.40	-0.42 (2.51)
LILE	18.81	17.87	0.94 (2.66)
Parents with High school or less (FGF)	18.81	13.54	5.27 (3.22)
Parents with any PSE (Non-FGF)	25.65	32.28	-6.63 * (3.72)
Boys	11.68	12.69	-1.01 (2.98)
Girls	30.83	30.48	0.35 (3.57)
Francophone	25.94	23.20	2.74 (3.64)
Anglophone	18.67	21.33	-2.66 (3.19)
Sample size	544	601	

Source: FTD administrative data from relative years 1 to 7.

Notes: Estimates regression adjusted. Sample sizes vary for individual measures because of missing values.

Statistical significance levels are indicated as * = 10 percent; ** = 5 percent; *** = 1 percent.

Rounding may cause slight discrepancies in sums and differences.

Enrolment in college

Table 4.3 LA impacts on college enrolment – combined Anglophone and Francophone

	New Brunswick			
	LA Group	Comparison Group	Impact (s.e)	
Ever enrolled in college (%)				
ALL	31.45	23.82	7.63 (2.32)	***
LILE	31.37	21.62	9.75 (2.43)	***
Parents with High school or less (FGF)	29.88	19.27	10.61 (3.31)	***
Parents with any PSE (Non-FGF)	35.18	26.95	8.23 (3.90)	**
Boys	34.70	25.70	8.99 (4.11)	**
Girls	28.28	22.62	5.66 (3.48)	
Francophone	40.50	31.10	9.40 (4.22)	**
Anglophone	23.86	16.31	7.55 (2.99)	**
Sample size	544	601		

Source: FTD administrative data from relative years 1 to 7.

Notes: Estimates regression adjusted. Sample sizes vary for individual measures because of missing values.

Statistical significance levels are indicated as * = 10 percent; ** = 5 percent; *** = 1 percent.

Rounding may cause slight discrepancies in sums and differences.

Graduating from university or college

Table 4.4 LA impacts on graduating from university or college – combined Anglophone and Francophone

	New Brunswick			
	LA Group	Comparison Group	Impact (s.e)	
Ever graduated from university or college (%)				
ALL	21.36	13.97	7.38 (1.97)	***
LILE	21.62	12.49	9.12 (2.07)	***
Parents with High school or less (FGF)	20.73	10.14	10.59 (2.90)	***
Parents with any PSE (Non-FGF)	23.63	16.81	6.82 (3.15)	**
Boys	25.61	15.03	10.57 (3.53)	***
Girls	18.31	12.60	5.71 (2.90)	**
Francophone	28.14	17.74	10.40 (3.43)	***
Anglophone	16.27	9.36	6.91 (2.66)	***
Sample size	544	601		

Source: FTD administrative data from relative years 1 to 7.

Notes: Estimates regression adjusted. Sample sizes vary for individual measures because of missing values.

Statistical significance levels are indicated as * = 10 percent; ** = 5 percent; *** = 1 percent.

Rounding may cause slight discrepancies in sums and differences.

Switching institutions

Table 4.5 LA impacts on switching institutions – combined Anglophone and Francophone

	New Brunswick		
	LA Group	Comparison Group	Impact (s.e)
Ever switched institutions (%)			
ALL	8.55	6.41	2.14 (1.36)
LILE	7.23	5.64	1.59 (1.47)
Parents with High school or less (FGF)	6.47	5.17	1.29 (1.85)
Parents with any PSE (Non-FGF)	10.66	7.76	2.90 (2.39)
Boys	3.70	2.83	0.87 (1.48)
Girls	12.09	9.95	2.14 (2.34)
Francophone	9.90	10.40	-0.50 (2.46)
Anglophone	6.52	3.41	3.11 * (1.68)
Sample size	544	601	

Source: FTD administrative data from relative years 1 to 7.

Notes: Estimates regression adjusted. Sample sizes vary for individual measures because of missing values.

Statistical significance levels are indicated as * = 10 percent; ** = 5 percent; *** = 1 percent.

Rounding may cause slight discrepancies in sums and differences.

Leaving university or college

Table 4.6 LA impacts on leaving university or college – combined Anglophone and Francophone

	New Brunswick		
	LA Group	Comparison Group	Impact (s.e)
Ever left university or college (%)			
ALL	12.92	10.45	2.47 (1.74)
LILE	12.50	10.17	2.34 (2.03)
Parents with High school or less (FGF)	11.42	10.04	1.38 (2.36)
Parents with any PSE (Non-FGF)	15.05	10.23	4.82 * (2.78)
Boys	11.04	12.55	-1.51 (2.63)
Girls	13.37	9.70	3.67 (2.49)
Francophone	16.51	11.67	4.84 * (2.87)
Anglophone	10.14	8.81	1.32 (2.20)
Sample size	544	601	

Source: FTD administrative data from relative years 1 to 7.

Notes: Estimates regression adjusted. Sample sizes vary for individual measures because of missing values.

Statistical significance levels are indicated as * = 10 percent; ** = 5 percent; *** = 1 percent.

Rounding may cause slight discrepancies in sums and differences.

Receiving student aid

Table 4.7 LA impacts on receiving student aid – combined Anglophone and Francophone

	New Brunswick		
	LA Group	Comparison Group	Impact (s.e)
Ever received student aid (%)			
ALL	46.20	44.78	1.42 (2.82)
LILE	44.70	41.92	2.78 (3.15)
Parents with High school or less (FGF)	41.21	39.20	2.01 (3.93)
Parents with any PSE (Non-FGF)	53.04	49.28	3.76 (4.18)
Boys	36.98	30.18	6.80 (4.32)
Girls	53.58	57.53	-3.96 (4.07)
Francophone	52.88	48.60	4.27 (4.02)
Anglophone	40.59	40.68	-0.09 (3.62)
Sample size	544	601	

Source: FTD administrative data from relative years 1 to 7.

Notes: Estimates regression adjusted. Sample sizes vary for individual measures because of missing values.

Statistical significance levels are indicated as * = 10 percent; ** = 5 percent; *** = 1 percent.

Rounding may cause slight discrepancies in sums and differences.

Cumulative amount of student aid received

Table 4.8 LA impacts on student aid received – combined Anglophone and Francophone

	New Brunswick			
	LA Group	Comparison Group	Impact (s.e)	
Cumulative amount of student aid received (%)				
ALL	8,771	10,707	-1,936 903	**
LILE	8,272	9,595	-1,323 945	
Parents with High school or less (FGF)	7,701	8,938	-1,237 1,140	
Parents with any PSE (Non-FGF)	10,091	12,502	-2,411 1,384	*
Boys	6,018	6,087	-69 1,102	
Girls	10,996	14,717	-3,721 1,277	***
Francophone	10,656	10,962	-305 1,394	
Anglophone	7,311	10,206	-2,895 1,117	***
Sample size	544	601		

Source: FTD administrative data from relative years 1 to 7.

Notes: Estimates regression adjusted. Sample sizes vary for individual measures because of missing values.

Statistical significance levels are indicated as * = 10 percent, ** = 5 percent, *** = 1 percent.

Rounding may cause slight discrepancies in sums and differences.

Post-secondary impacts of combining *Future to Discover* interventions

Summary of the results

This section presents the impacts on lower-income New Brunswick students of being offered both *Explore Your Horizons* and *Learning Accounts* interventions relative to neither.

- **Students offered EYH plus LA were significantly more likely to enrol in university and college** (Table 5.1). This is particularly notable for LILE students (enrolment increased by ten percentage points), boys (by ten percentage points) and Francophone students (by ten percentage points). As with earlier findings for EYH offered on its own (Section 3), the impacts on university and college enrolments combined are driven largely by university enrolments. Indeed, it can be seen that the students who were offered EYH plus LA experienced a similar increase in university enrolment (Table 5.2) but only a marginally significant increase in college enrolment (which was significant only for the LILE group at the ten per cent level of significance, Table 5.3).

After enrolments peak up in the fourth relative year, there is a constant gap in enrolment between the group offered EYH plus LA and the control group (Figure A3.1). Those in the LILE group offered both interventions were significantly more likely to enroll in post-secondary education than those in the control group in relative years four and five, respectively (Figure A3.2). There were positive impacts for Francophone students (from about two to twelve percentage points) but limited effects on Anglophone students (about minus two percentage points in relative years two, Figure A3.5). This is consistent with students in the Anglophone sector being motivated to increase high school graduation (as reported in Ford et al., 2012) delaying their participation in post-secondary education. No consistent patterns were observed by gender (Figure A3.4).

The enrolments in university reported in Figure A3.6 follow the same patterns as in Figure A3.1. The results by subgroups are not consistently significant, although boys have marginally higher enrolment in the fifth to seventh relative year (Figure A3.9). The combined intervention increases enrolment for the LILE group in the fourth relative year (Figure A3.7) and Francophone students in the fifth relative year (Figure A3.10).

Effects on college enrolment are reported in Figure A3.11. There are no significant impacts by subgroup across relative years (Figure A3.12 to Figure A3.15).

- **Students who received EYH plus LA were significantly more likely to have ever graduated from university or college** (Table 5.4). This result is more in line with those who received the LA intervention alone. The increases are as high as eight percentage points for the LILE group and boys. The impacts for Francophone students are also positive.
- **Those offered EYH plus LA appear slightly more likely to continue their studies than those in the control group.** Positive impacts fluctuate between 1 and 5 percentage points (Figure A3.16). The combined intervention has marginally significant impacts on the LILE group in the fourth and

sixth relative years (Figure A3.17), on boys in the fifth and sixth relative years (about six percentage points, Figure A3.19) and on the Francophone sector in the fourth and sixth years (about seven percentage points, Figure A3.20).

- **Offering EYH plus LA had few significant impacts on ever switching institutions** (Table 5.5). The significant impacts were mainly on boys (who were 3 percentage points more likely to switch) and Anglophone (3 percentage points more likely) (Table 5.5). Trends over time are reported in Figure A3.26, where it can be seen that the impacts fluctuate around one percentage point with a peak in the sixth relative year. With the exception of boys in year seven, there were no significant effects on switching institutions for any subgroup in any relative year (Figure A3.29).
- **The combined intervention had no significant effects on ever leaving university or college** (Table 5.6).
- **In general, students who received the EYH plus LA combination were no more likely to receive student aid** (Table 5.7). However offering the combination to boys increased their chances of receiving student aid significantly by 13 percentage points (Table 5.7) and had a similar effect on LILE students (7 percentage points increase). This result is more in line with that of the EYH intervention that has strong significant impacts (Section 3) than that of the LA intervention which had no impacts (Section 4).
- **The students who received the EYH plus LA combination did not experience any significant impacts on the amount of student aid received** (Table 5.8). This was more in line with the EYH intervention that produced modest positive increases (Section 3) than the LA intervention that had strong negative significant impacts (Section 4).

Impacts of offering *Explore Your Horizons* and *Learning Accounts*

Enrolment in university and college

Table 5.1 EYH+LA impacts on university+college enrolment – combined Anglophone and Francophone

	New Brunswick			
	EYH/LA Group	Comparison Group	Impact (s.e)	
Ever enrolled in university and college (%)				
ALL	50.22	44.38	5.84 (2.86)	**
LILE	48.12	37.67	10.45 (3.22)	***
Parents with High school or less (FGF)	42.12	33.85	8.27 (4.23)	*
Parents with any PSE (Non-FGF)	58.71	56.75	1.96 (4.05)	
Boys	49.12	38.73	10.39 (4.33)	**
Girls	51.79	48.79	3.00 (3.96)	
Francophone	60.07	49.83	10.24 (4.30)	**
Anglophone	42.19	38.32	3.87 (3.48)	
Sample size	547	601		

Source: FTD administrative data from relative years 1 to 7.

Notes: Estimates regression adjusted. Sample sizes vary for individual measures because of missing values.

Statistical significance levels are indicated as * = 10 percent; ** = 5 percent; *** = 1 percent.

Rounding may cause slight discrepancies in sums and differences.

Enrolment in university

Table 5.2 EYH+LA impacts on university enrolment – combined Anglophone and Francophone

	New Brunswick			
	EYH/LA Group	Comparison Group	Impact (s.e)	
Ever enrolled in university (%)				
ALL	26.99	21.56	5.42 (2.39)	**
LILE	23.40	16.46	6.94 (2.52)	***
Parents with High school or less (FGF)	20.07	13.01	7.06 (3.05)	**
Parents with any PSE (Non-FGF)	35.39	30.46	4.93 (3.75)	
Boys	20.25	12.58	7.66 (3.28)	**
Girls	33.31	29.54	3.77 (3.78)	
Francophone	29.18	21.89	7.29 (3.59)	**
Anglophone	25.49	20.77	4.72 (3.15)	
Sample size	547	601		

Source: FTD administrative data from relative years 1 to 7.

Notes: Estimates regression adjusted. Sample sizes vary for individual measures because of missing values.

Statistical significance levels are indicated as * = 10 percent; ** = 5 percent; *** = 1 percent.

Rounding may cause slight discrepancies in sums and differences.

Enrolment in college

Table 5.3 EYH+LA impacts on college enrolment – combined Anglophone and Francophone

	New Brunswick		
	EYH/LA Group	Comparison Group	Impact (s.e)
Ever enrolled in college (%)			
ALL	26.07	23.90	2.18 (2.46)
LILE	26.60	21.55	5.06 (2.65) *
Parents with High school or less (FGF)	24.24	20.21	4.03 (3.52)
Parents with any PSE (Non-FGF)	28.00	28.25	-0.26 (3.81)
Boys	29.60	23.62	5.98 (4.19)
Girls	23.33	23.48	-0.15 (3.50)
Francophone	36.42	31.57	4.85 (4.38)
Anglophone	17.03	16.28	0.75 (2.83)
Sample size	547	601	

Source: FTD administrative data from relative years 1 to 7.

Notes: Estimates regression adjusted. Sample sizes vary for individual measures because of missing values.

Statistical significance levels are indicated as * = 10 percent; ** = 5 percent; *** = 1 percent.

Rounding may cause slight discrepancies in sums and differences.

Graduating from university or college

Table 5.4 EYH+LA impacts on graduating from university or college – combined Anglophone and Francophone

	New Brunswick			
	EYH/LA Group	Comparison Group	Impact (s.e)	
Ever graduated from university or college (%)				
ALL	18.90	13.94	4.97 (2.01)	**
LILE	20.65	12.61	8.03 (2.23)	***
Parents with High school or less (FGF)	17.58	11.75	5.84 (2.67)	**
Parents with any PSE (Non-FGF)	19.99	16.79	3.20 (3.37)	
Boys	21.10	13.55	7.54 (3.39)	**
Girls	17.63	13.49	4.14 (2.95)	
Francophone	24.36	18.66	5.70 (3.39)	*
Anglophone	13.74	9.64	4.10 (2.66)	
Sample size	547	601		

Source: FTD administrative data from relative years 1 to 7.

Notes: Estimates regression adjusted. Sample sizes vary for individual measures because of missing values.

Statistical significance levels are indicated as * = 10 percent; ** = 5 percent; *** = 1 percent.

Rounding may cause slight discrepancies in sums and differences.

Switching institutions

Table 5.5 EYH+LA impacts on switching institutions – combined Anglophone and Francophone

	New Brunswick		
	EYH/LA Group	Comparison Group	Impact (s.e)
Ever switched institutions (%)			
ALL	8.69	6.25	2.44 * (1.33)
LILE	7.52	5.26	2.26 (1.46)
Parents with High school or less (FGF)	5.93	5.39	0.55 (1.81)
Parents with any PSE (Non-FGF)	11.42	7.36	4.06 * (2.21)
Boys	5.65	2.74	2.91 * (1.71)
Girls	11.12	9.73	1.39 (2.24)
Francophone	11.53	9.92	1.61 (2.47)
Anglophone	5.82	3.04	2.78 * (1.57)
Sample size	547	601	

Source: FTD administrative data from relative years 1 to 7.

Notes: Estimates regression adjusted. Sample sizes vary for individual measures because of missing values.

Statistical significance levels are indicated as * = 10 percent; ** = 5 percent; *** = 1 percent.

Rounding may cause slight discrepancies in sums and differences.

Leaving university or college

Table 5.6 EYH+LA impacts on leaving university or college – combined Anglophone and Francophone

	New Brunswick		
	EYH/LA Group	Comparison Group	Impact (s.e)
Ever left university or college (%)			
ALL	11.46	10.39	1.07 (1.83)
LILE	10.48	9.75	0.72 (2.00)
Parents with High school or less (FGF)	10.67	9.64	1.03 (2.52)
Parents with any PSE (Non-FGF)	12.25	11.28	0.97 (2.69)
Boys	13.75	10.32	3.43 (3.03)
Girls	9.59	10.10	-0.52 (2.32)
Francophone	15.86	11.52	4.34 (3.22)
Anglophone	8.19	8.60	-0.42 (2.15)
Sample size	547	601	

Source: FTD administrative data from relative years 1 to 7.

Notes: Estimates regression adjusted. Sample sizes vary for individual measures because of missing values.

Statistical significance levels are indicated as * = 10 percent; ** = 5 percent; *** = 1 percent.

Rounding may cause slight discrepancies in sums and differences.

Receiving student aid

Table 5.7 EYH+LA impacts on receiving student aid – combined Anglophone and Francophone

	New Brunswick			
	EYH/LA Group	Comparison Group	Impact (s.e)	
Ever received student aid (%)				
ALL	48.20	43.56	4.65 (2.88)	
LILE	47.01	40.32	6.69 (3.16)	**
Parents with High school or less (FGF)	44.34	39.01	5.33 (3.79)	
Parents with any PSE (Non-FGF)	51.98	49.14	2.84 (4.11)	
Boys	40.38	27.82	12.56 (4.08)	***
Girls	55.27	57.58	-2.31 (4.16)	
Francophone	52.16	48.38	3.78 (3.90)	
Anglophone	44.02	39.54	4.48 (3.87)	
Sample size	547	601		

Source: FTD administrative data from relative years 1 to 7.

Notes: Estimates regression adjusted. Sample sizes vary for individual measures because of missing values.

Statistical significance levels are indicated as * = 10 percent, ** = 5 percent, *** = 1 percent.

Rounding may cause slight discrepancies in sums and differences.

Cumulative amount of student aid received

Table 5.8 EYH+LA impacts on student aid received – combined Anglophone and Francophone

	New Brunswick		
	EYH/LA Group	Comparison Group	Impact (s.e)
Cumulative amount of student aid received (%)			
ALL	10,079	10,276	-197 949
LILE	9,556	9,007	549 1,001
Parents with High school or less (FGF)	8,461	8,775	-314 1,181
Parents with any PSE (Non-FGF)	11,691	12,108	-417 1,349
Boys	7,176	5,623	1,553 1,213
Girls	12,662	14,501	-1,839 1,391
Francophone	10,800	10,667	133 1,347
Anglophone	9,435	9,891	-456 1,213
Sample size	547	601	

Source: FTD administrative data from relative years 1 to 7.

Notes: Estimates regression adjusted. Sample sizes vary for individual measures because of missing values.

Statistical significance levels are indicated as * = 10 percent; ** = 5 percent; *** = 1 percent.

Rounding may cause slight discrepancies in sums and differences.

Summary of findings from the Future to Discover Pilot Project to date

- Overall.** The EYH and LA interventions have strong and significant impacts on several important post-secondary outcomes. Importantly, and for most subgroups, both interventions have a positive impact on enrolment in both university and college that persist over time. However, the story is more complicated when types of post-secondary education and other outcomes of interest are considered. Table 6.1 summarizes the results by intervention and subgroups.

The EYH intervention has significant positive impacts on enrolment in university but not on enrolment in college. The opposite pattern is seen for LA on its own. When the interventions are combined, the results for EYH seem to dominate. These differences in enrolments help to explain the observed differences in graduation rates. Specifically, it typically takes longer to graduate from university programs and since EYH induced more students into university EYH has yet to generate significant impacts on graduating post-secondary education. Similarly, the strong impacts of LA observed – at the moment – on graduation follow from the finding that LA induced more students into enrolling in shorter programs. Thus, although both interventions induced higher enrolments, providing enhanced career education to students (in the EYH intervention) and providing a promise of funding to them (LA intervention) leads to different pathways and outcomes in post-secondary education.

As expected, both interventions have only modest impacts on ever switching institutions. A negative effect could have been expected on leaving/dropping out, but the impacts are indistinguishable from zero for EYH and for EYH plus LA but mildly positive for LA. This mild positive effect for LA might capture some students in the LA group entering post-secondary education just because of the financial incentive, realizing that it was not the best alternative for them and dropping out. On the other hand, any intervention that increases the proportion of a population engaging in an outcome risks raising the proportion of the population dropping out of it as well, without necessarily raising the *rate* at which those who become engaged drop out. A rise in the number ‘switching’ is a natural consequence of increasing the number entering post-secondary education in the first place, and does not mean the intervention made switching more prevalent among those reaching post-secondary education. All experimental impacts reported include the entire group in question, and are not selective only on those achieving any outcome.

Unsurprisingly, EYH has a strong and consistent positive impact on the propensity to receive student aid, while LA – offering a type of aid - has no impact. Furthermore, students offered EYH did not receive statistically different amounts from student aid, whereas students offered LA were more likely to receive lower amounts of funding. These results are to be expected. First, EYH improves students – and their parents’ – knowledge about post-secondary education and support to post-secondary education without obviously affecting their needs assessment (i.e., the difference between the assessed costs of their study and their assessed resources). Second, students may have substituted student aid with the additional grant funding provided in the LA intervention, and, if applying to student aid, would have been eligible for lower amounts of funding given their higher

Table 6.1 Summary of impact results for each Future to Discover intervention, including by subgroups

Intervention	Sub-groups	Intervention impact on post-secondary outcomes, expressed as difference from control group outcome							
		Ever enrolled in university or college (%)	Ever enrolled in university only (%)	Ever enrolled in college only (%)	Ever graduated from any PSE institution (%)	Ever switched between PSE institution (%)	Ever left PSE institutions (%)	Ever received student aid (%)	Student aid received (\$)
EYH (see Section 3)	All	+5	+5					+6	
	LILE	+10	+8					+10	+2,200
	FGF							+8	
	Parents with any PSE								
	Boys					+4		+10	
	Girls	+9							
	Francophone	+11	+10					+9	
	Anglophone								+3,100
LA (see Section 4)	All	+7		+8	+7				-1,900
	LILE	+11		+10	+9				
	FGF	+15		+11	+11				
	Parents with any PSE		-7	+8	+7		+5		-2,400
	Boys	+8		+9	+11				
	Girls				+6				-3,700
	Francophone	+13		+9	+11		+5		
	Anglophone			+8	+7	+3			-2,900
EYH+LA (see Section 5)	All	+6	+5		+5	+2			
	LILE	+10	+7	+5	+8			+7	
	FGF	+8	+7		+6				
	Parents with any PSE					+4			
	Boys	+10	+8		+8	+3		+13	
	Girls								
	Francophone	+10	+7		+6				
	Anglophone					+3			

The number indicates the size and direction of the impact brought about by each intervention, in percentage points or dollars. Only impacts found statistically significant at a minimum 10 per cent level of significance are shown. The analysts' subjective assessment of the importance of each change in outcomes brought about by each impact, relative to the 'normal' level of the outcome observed in the control group, is indicated with darker shading for greater importance.

assessed resources.⁹ Finally, the results pertaining to LA are also consistent with debt-adverse students utilizing their two years of funding and minimizing their after-postsecondary education level of debt by (1) electing college studies over the typically longer university studies, and (2) raising less debt from student aid.

The combination of EYH and LA generated significant positive impacts on enrolment in both university and college, on enrolment in university alone and on graduation rates. It had mild impacts on enrolment in college alone, on switching institutions, on receiving student aid and has no significant impacts on leaving post-secondary education and on the amount of student aid received. The outcomes from the combined intervention are therefore not precisely equal to the sum of its parts. Actually, the outcomes are close to those of EYH except in regard to graduating.

Subgroups. Both interventions produced significant impacts on post-secondary education outcomes for subgroups of interest. This is particularly notable for the LILE group and boys, which suggests that the interventions worked well to target key groups with traditionally lower rates of post-secondary attendance. Hence, for these groups the interventions increased enrolments, graduation (LA and EYH+LA) and receipt of student aid. Broadly, Francophone students were more likely to experience post-secondary impacts than Anglophone students, especially with respect to enrolment in university and college and university only.

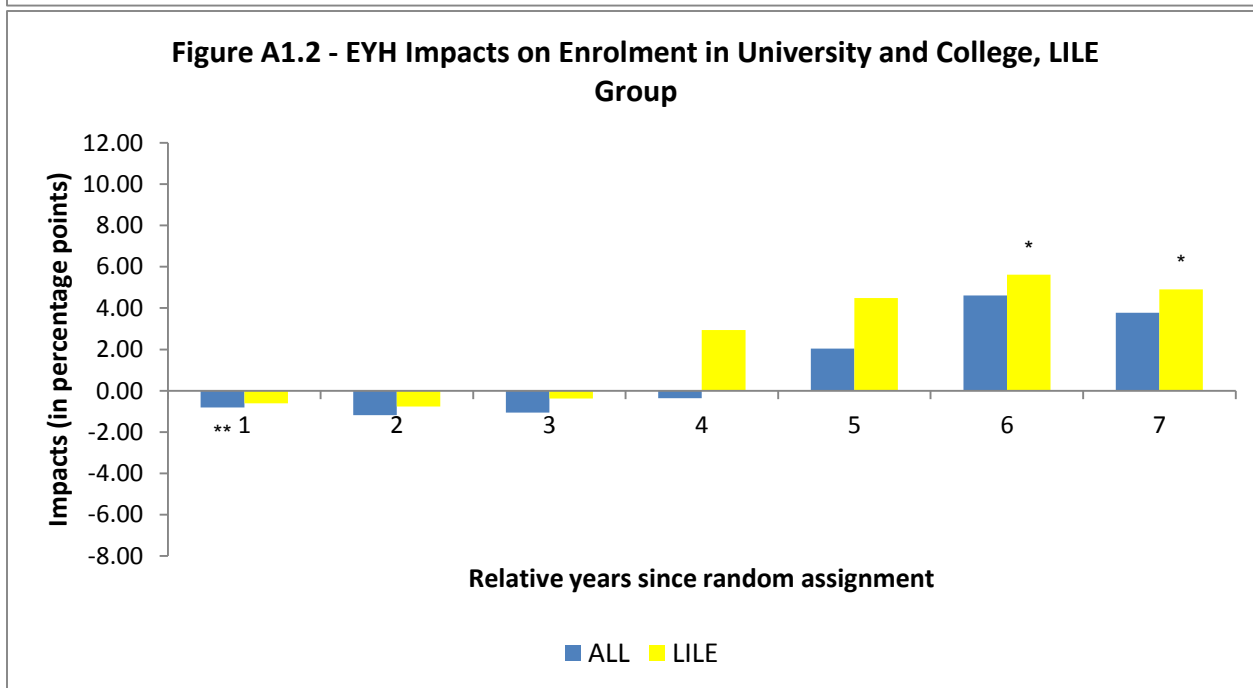
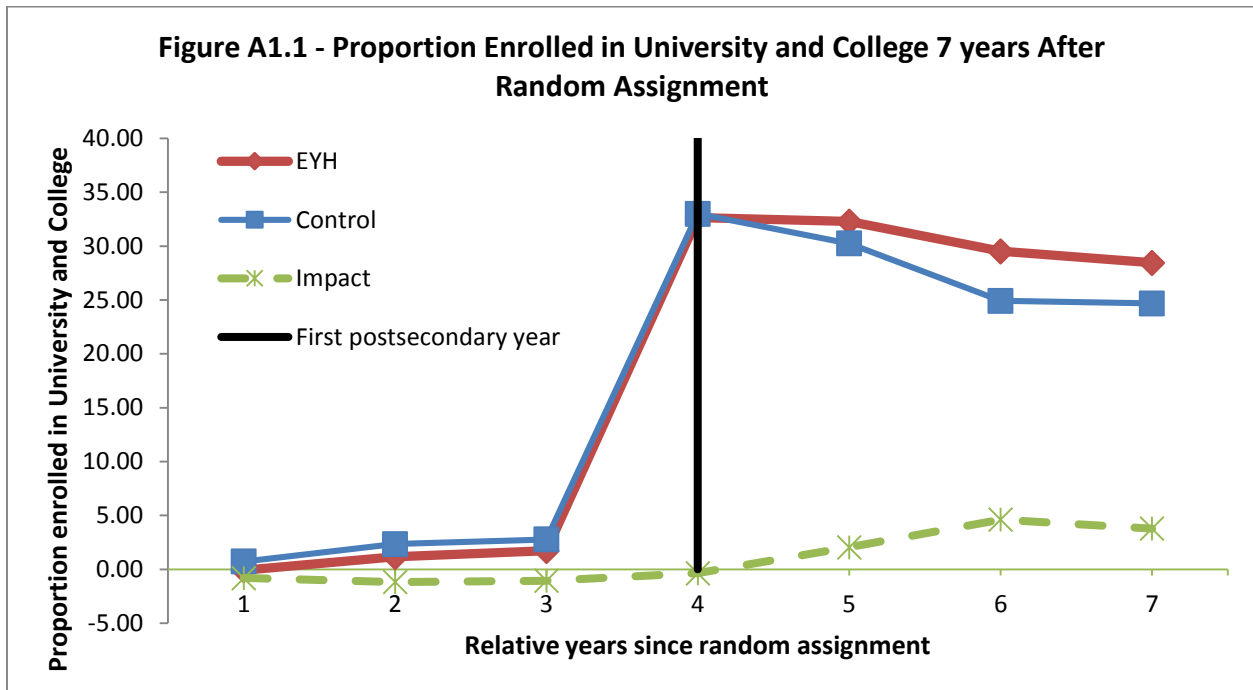
⁹ The assessed resources take into account the student's income, assets and other resources (including government funding). As such, LA grants will increase the assessed resources of a student and therefore decrease the eligible amounts he/she could expect.

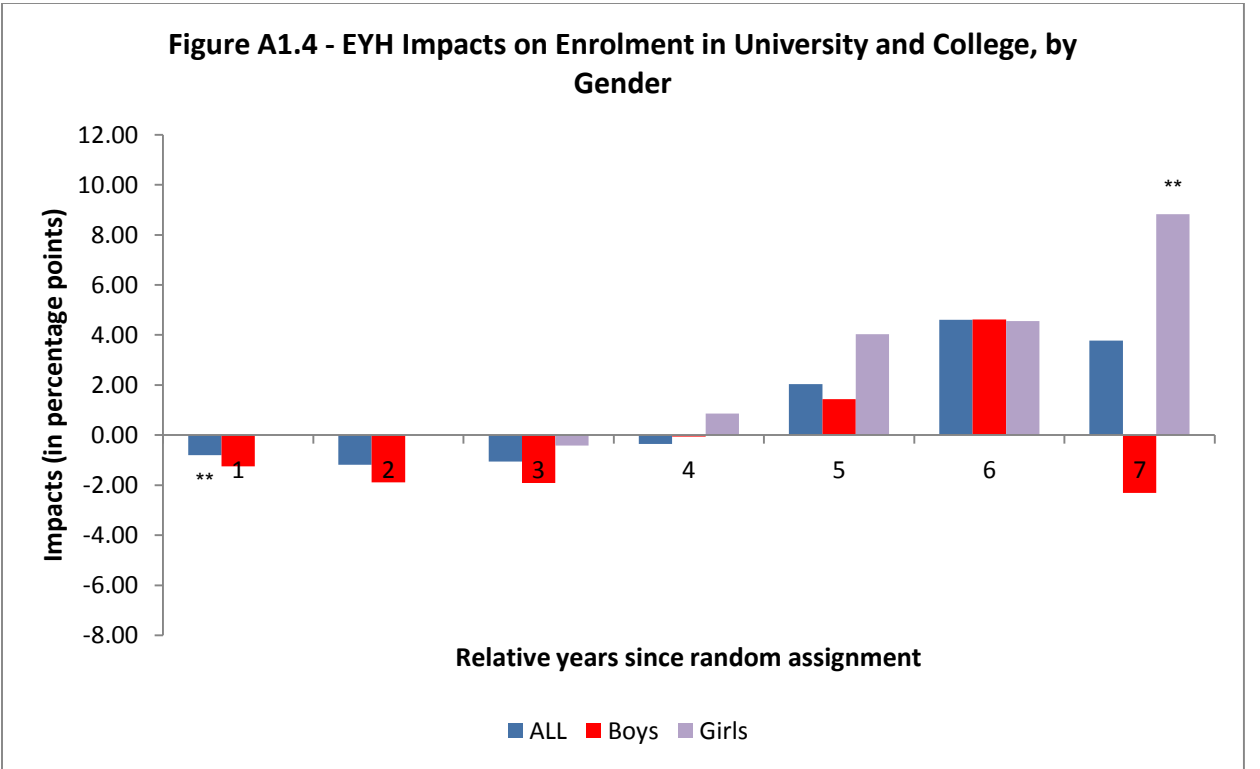
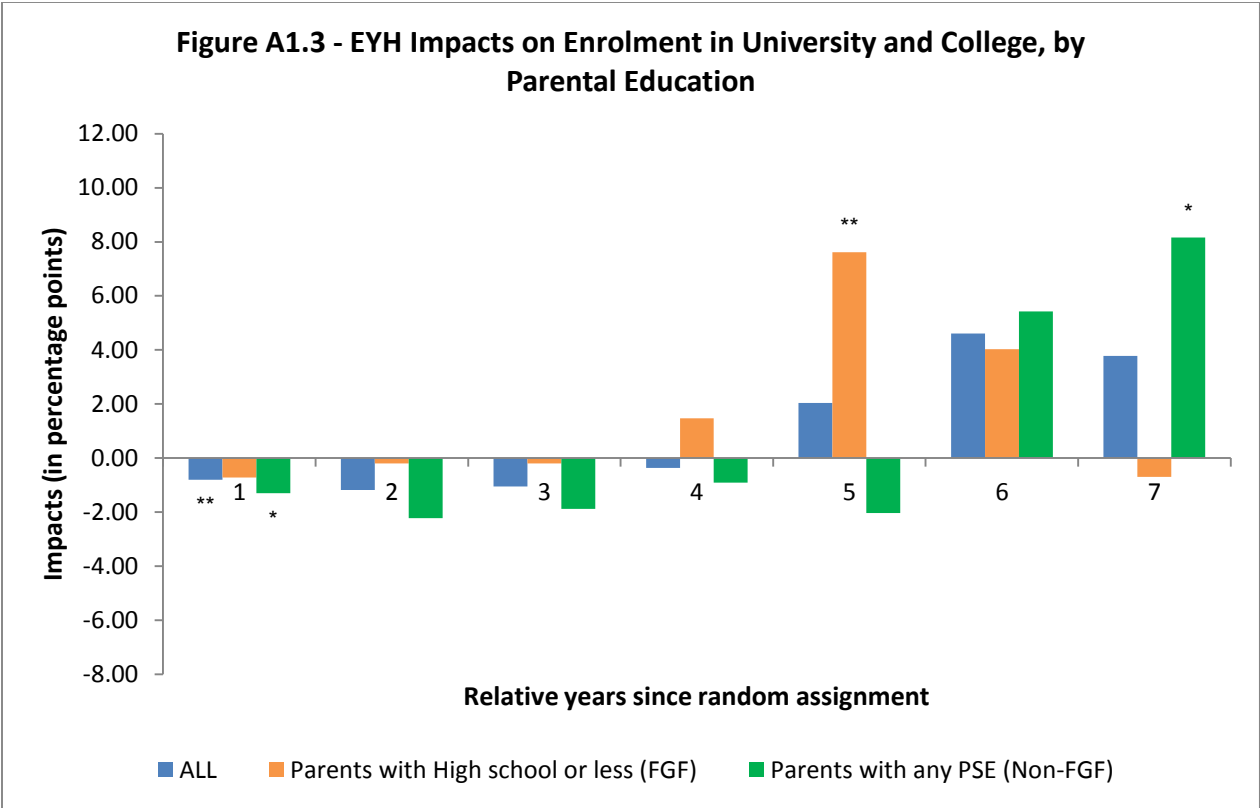
References

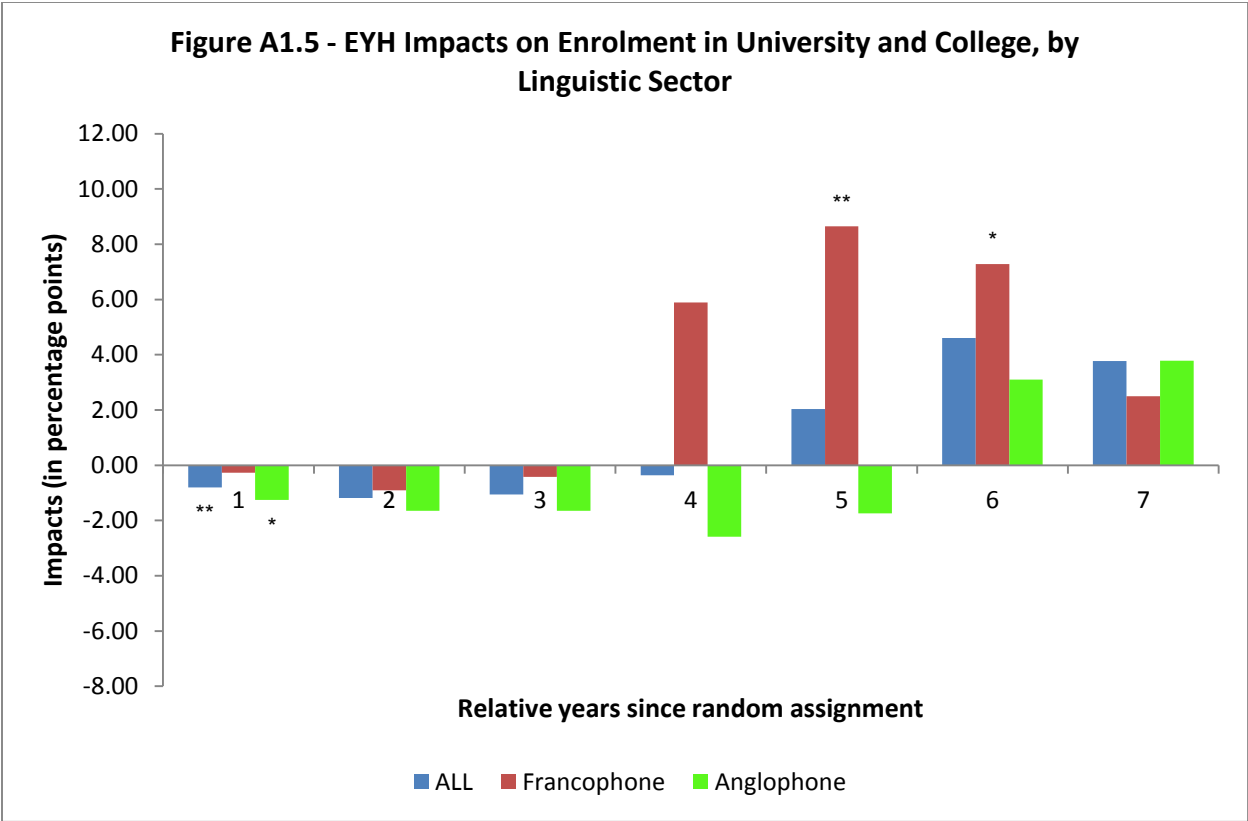
- Finnie, R. and Qiu, T. (2009). *Moving Through, Moving On: Persistence in Postsecondary Education in Atlantic Canada, Evidence from the PSIS*. Culture, Tourism and the Centre for Education Statistics Division. Statistics Canada.
- Ford, R., Frenette, M., Nicholson, C., Kwakye, I., Hui, S. W., Hutchison, J., Dobrer, S., Smith Fowler, H., and Hébert, S. (2012). *Future to Discover Pilot Project: Post-secondary Impacts Report*. Ottawa: Social Research and Demonstration Corporation.
- Social Research and Demonstration Corporation. (2007). *Future to Discover Pilot Project: Early Implementation Report*. Montreal: Canada Millennium Scholarship Foundation.

Appendix 1: Impacts of offering *Explore Your Horizons* (graphs)

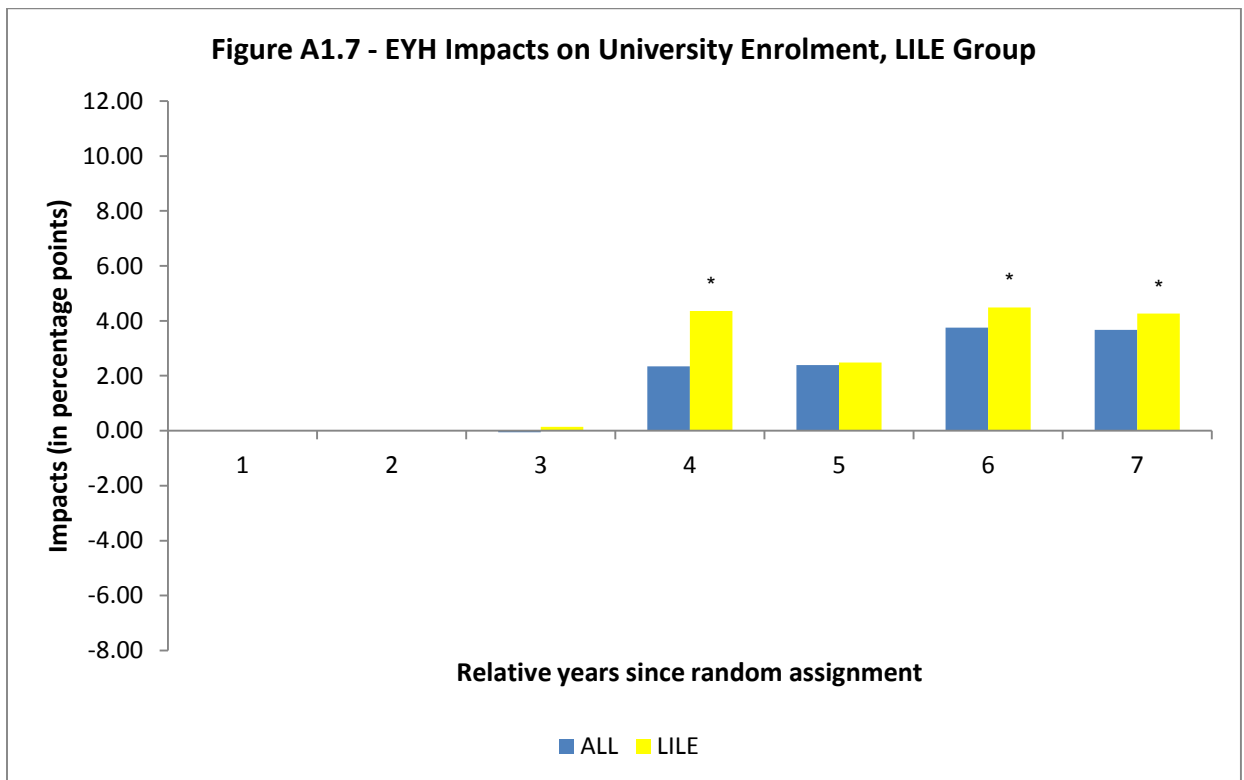
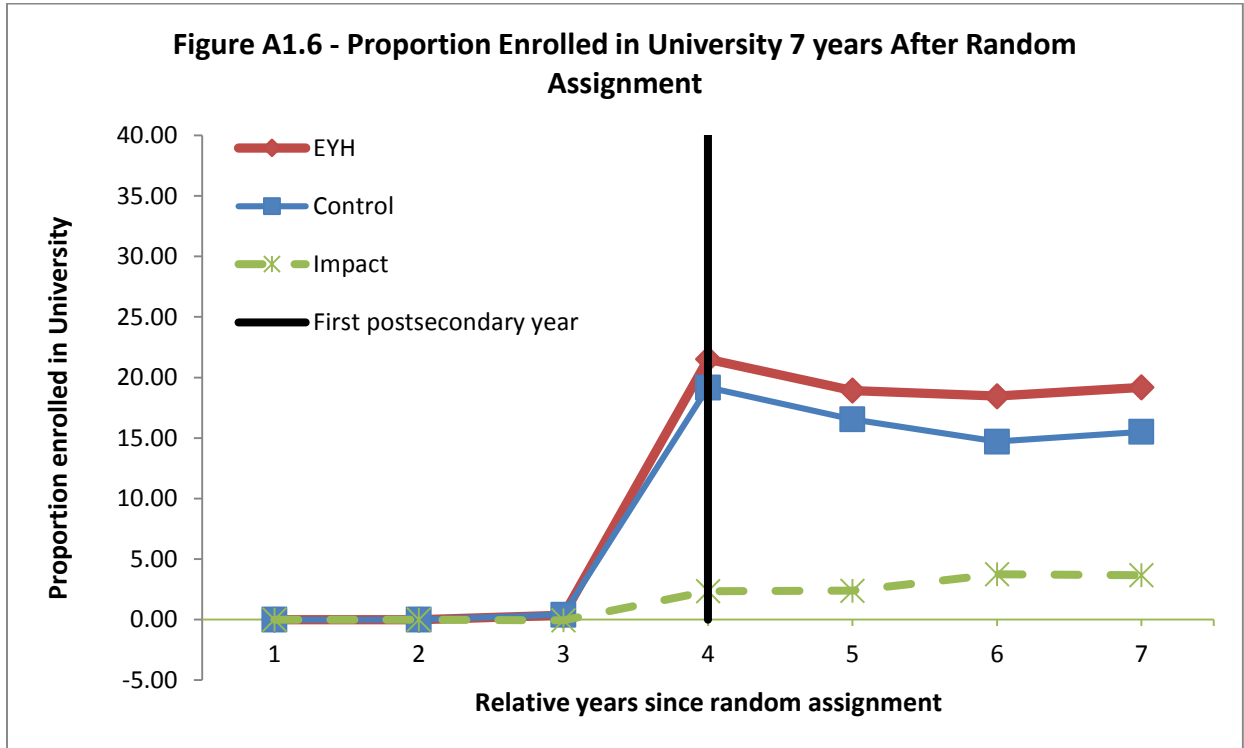
Enrolment in university and college

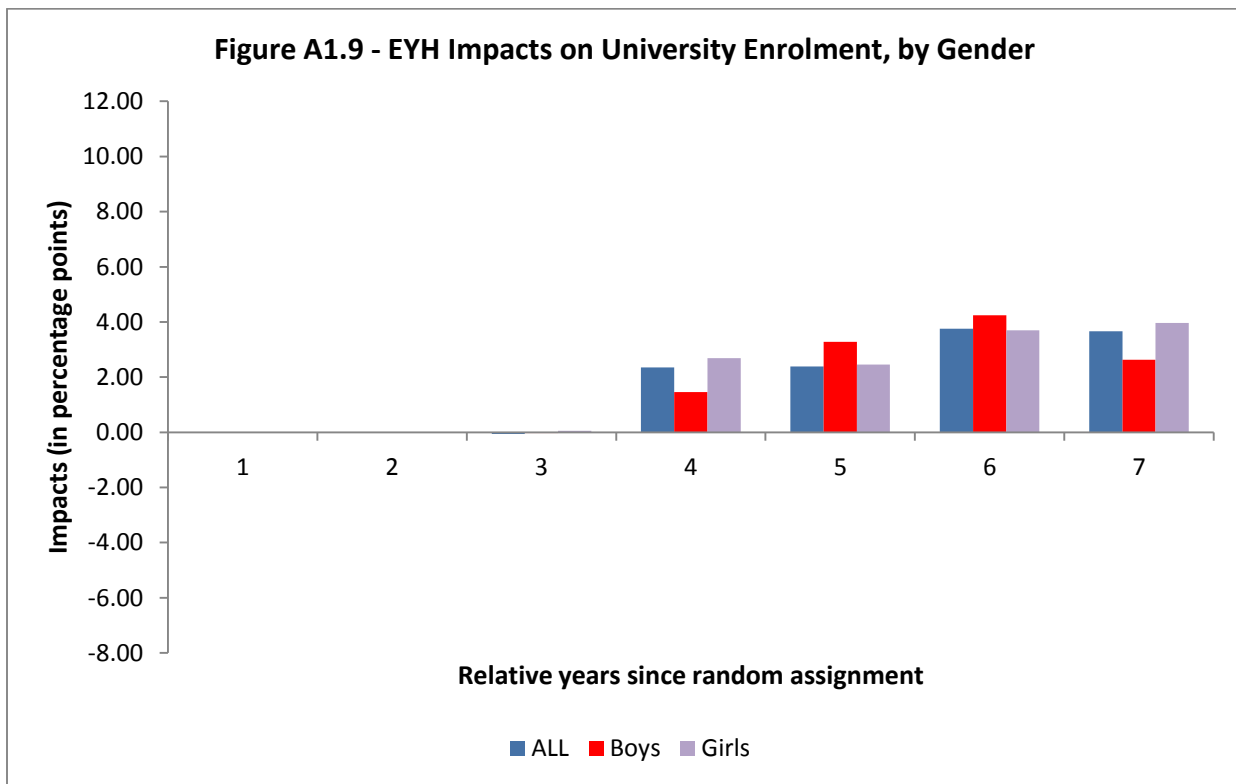
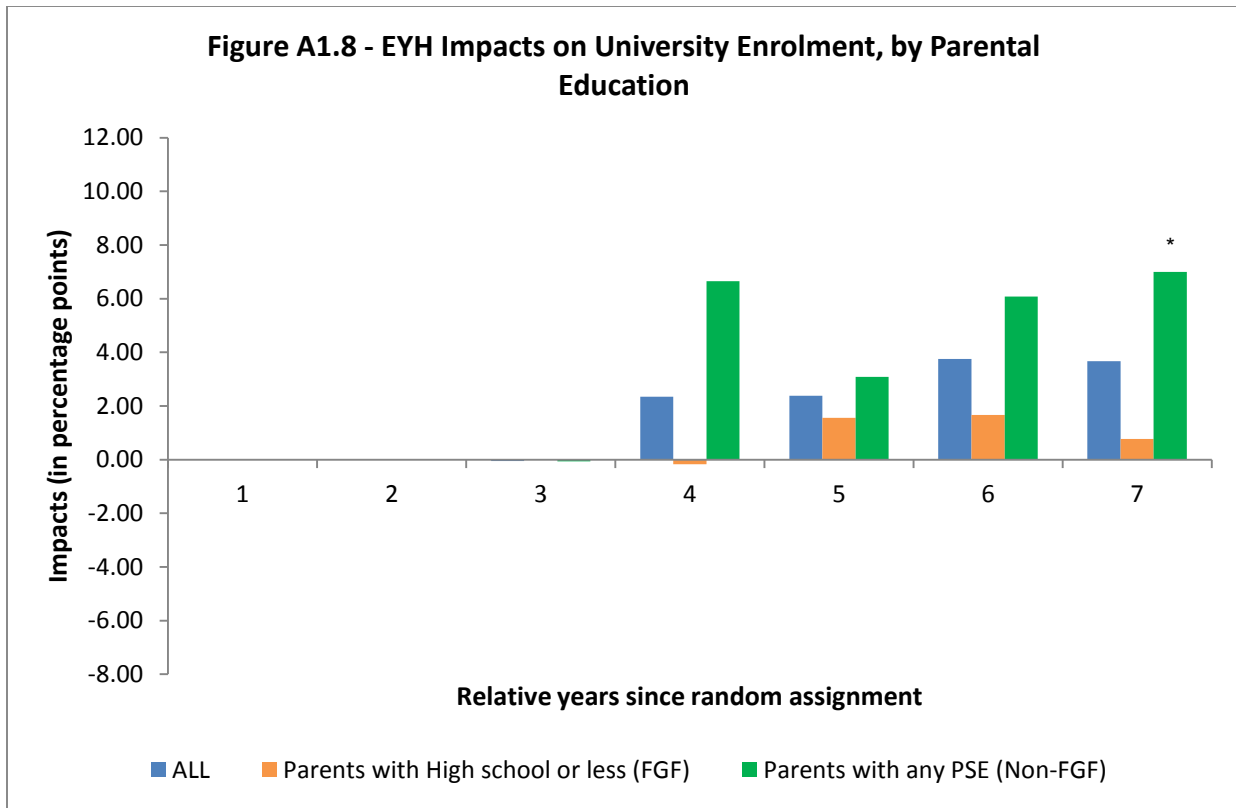


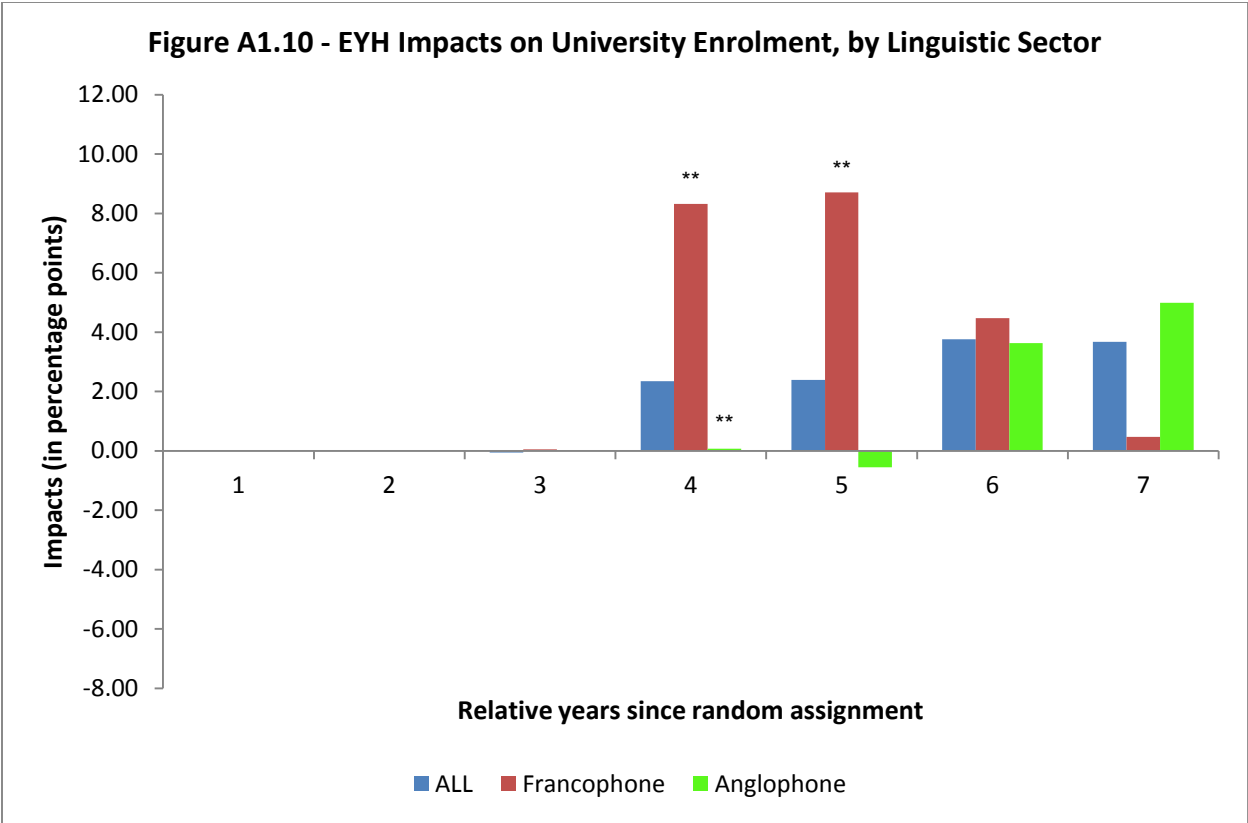




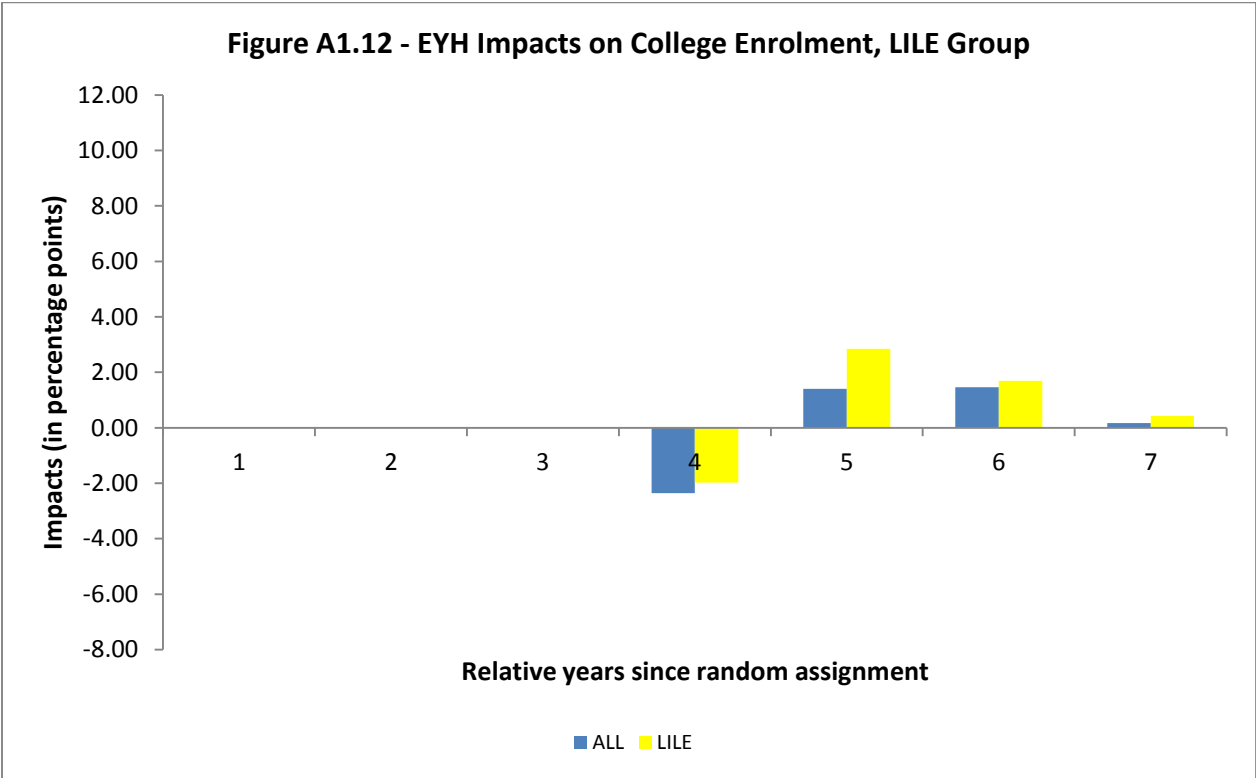
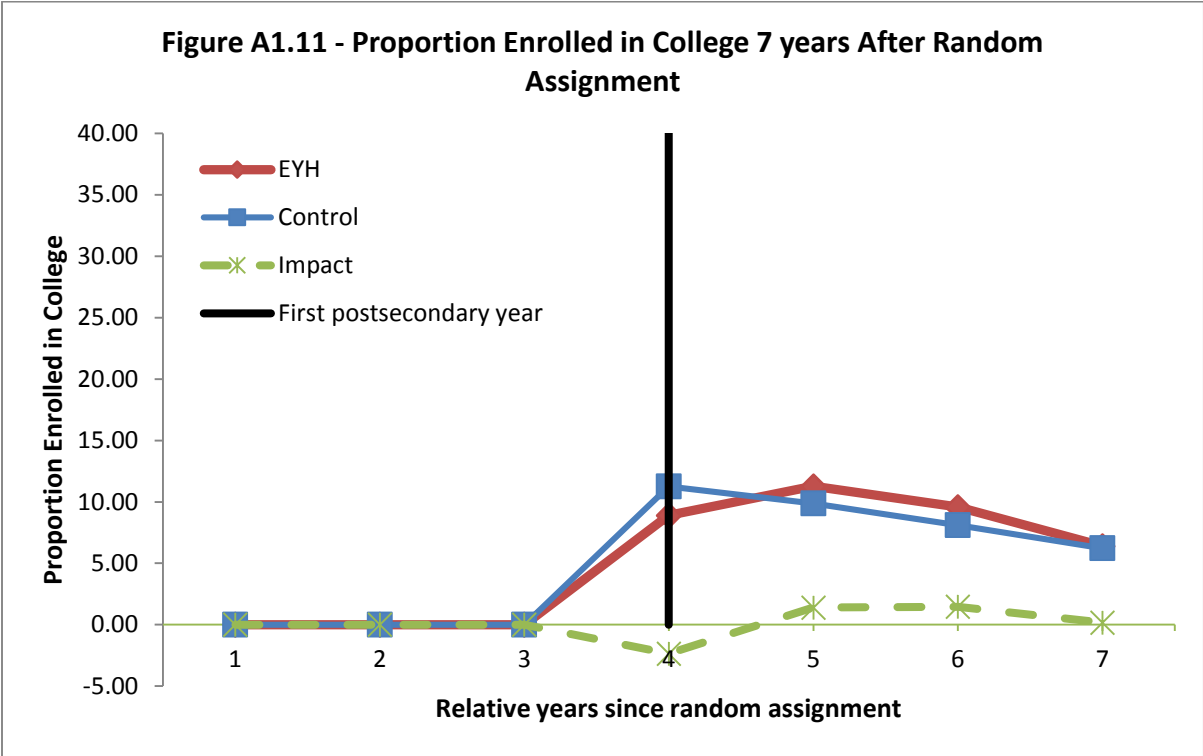
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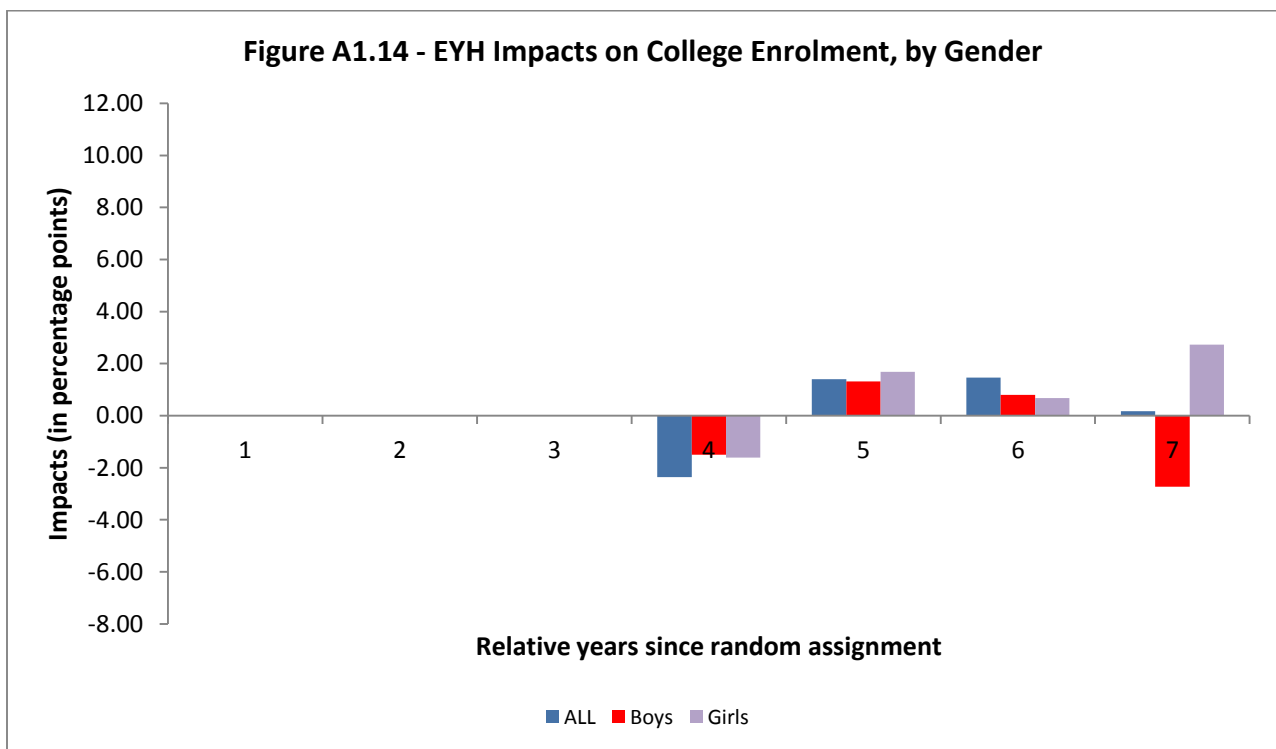
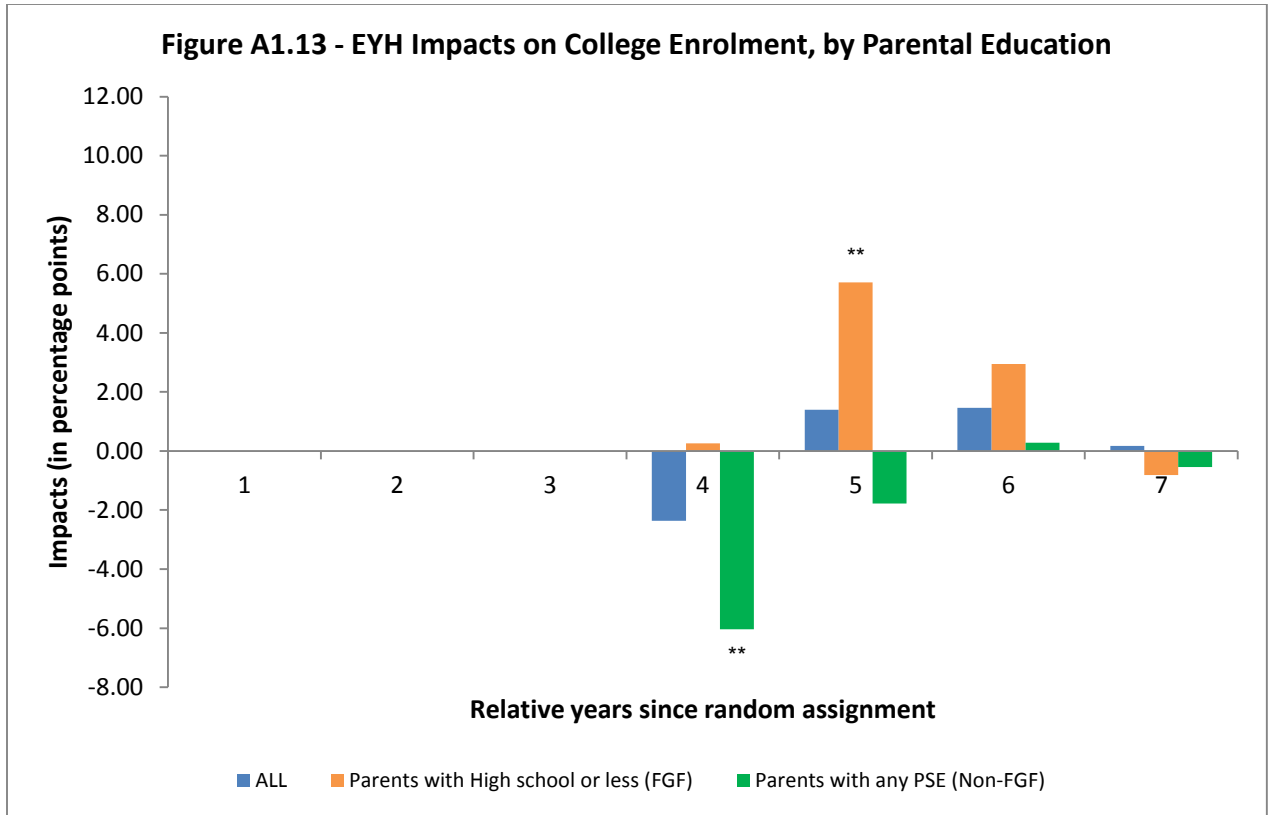


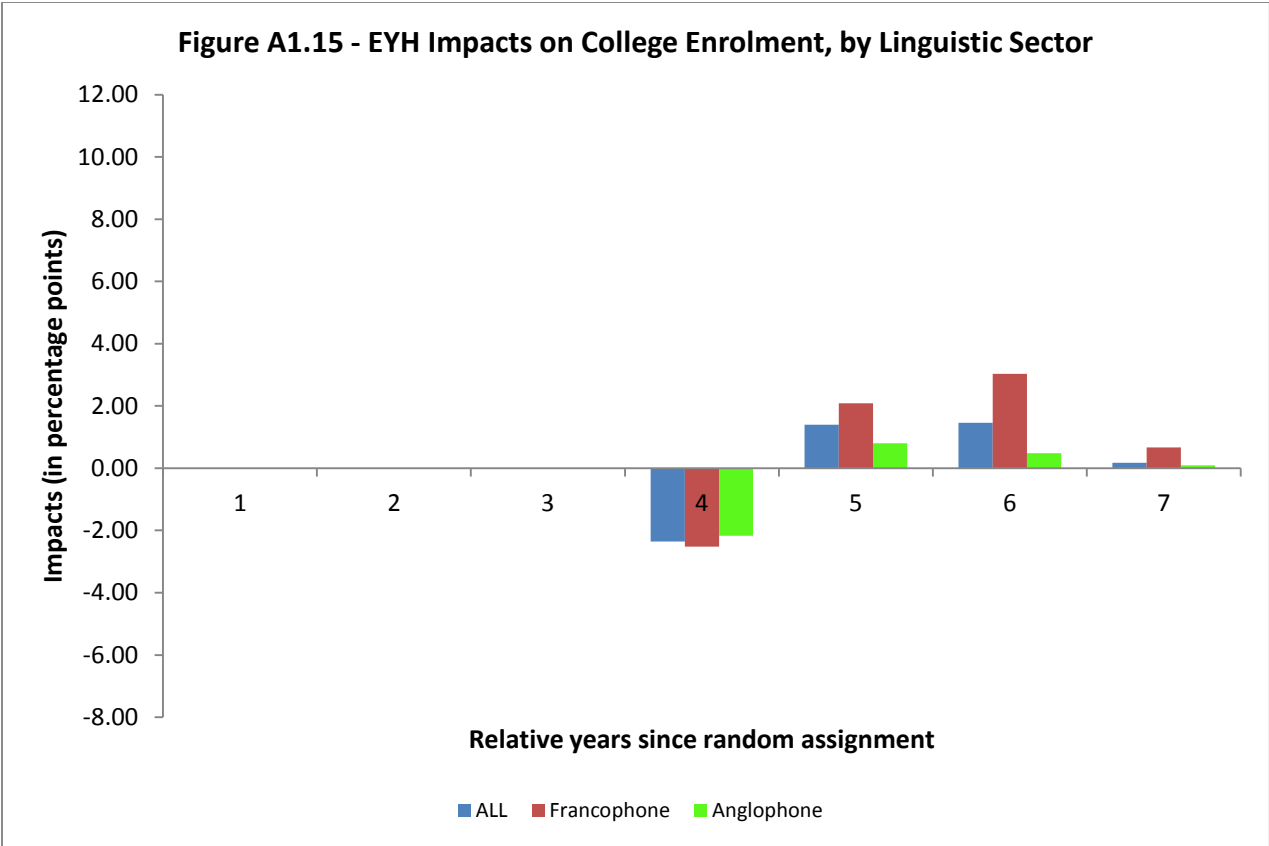




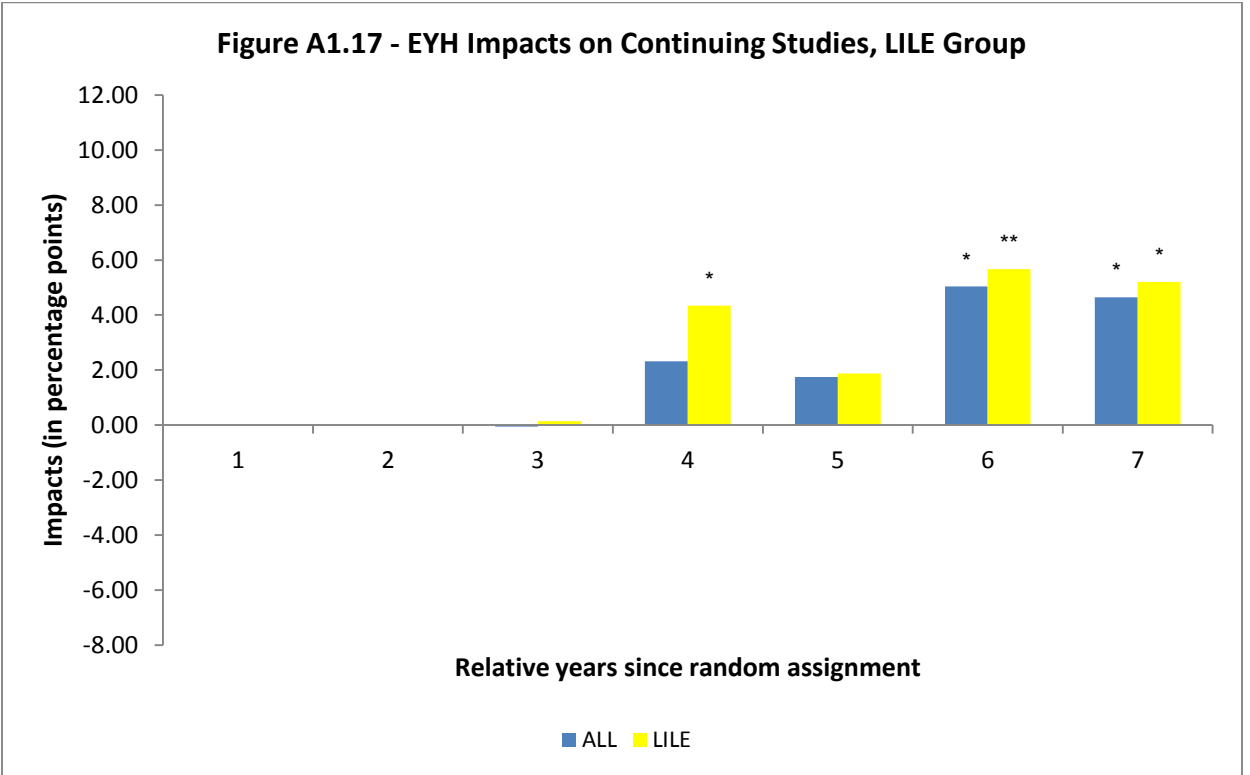
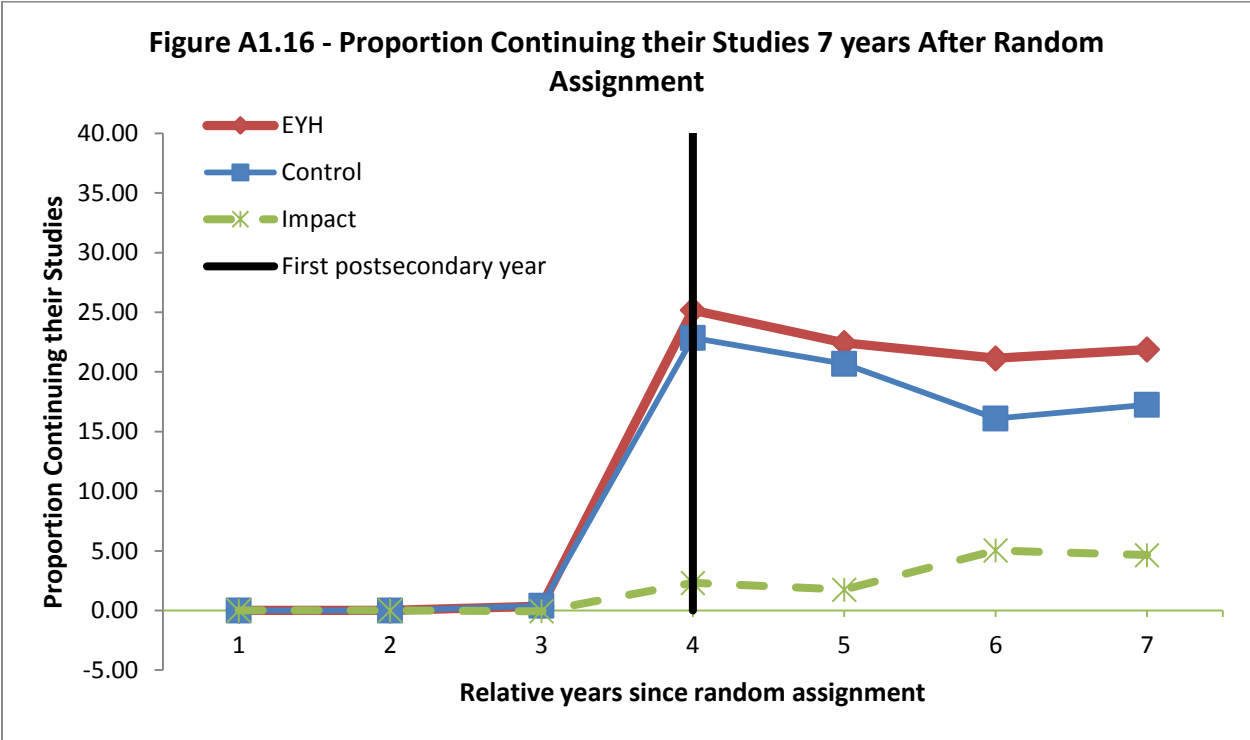
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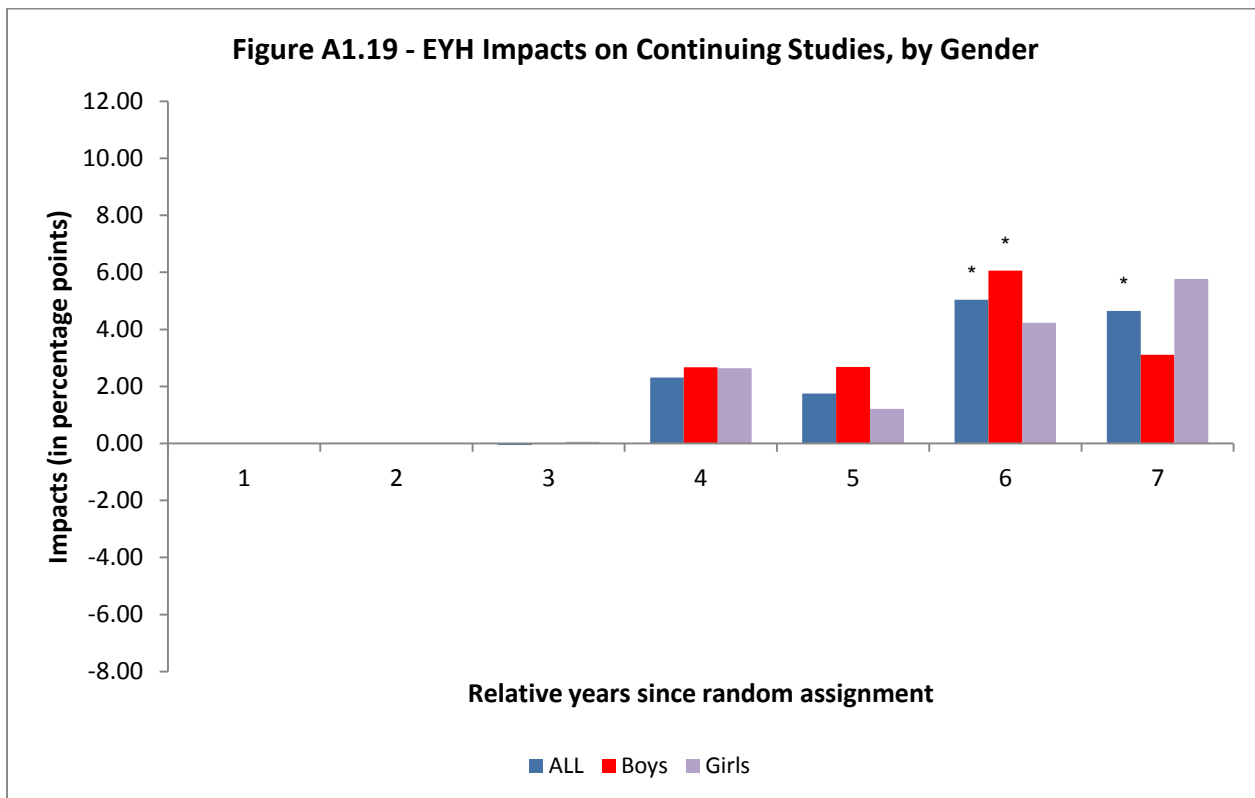
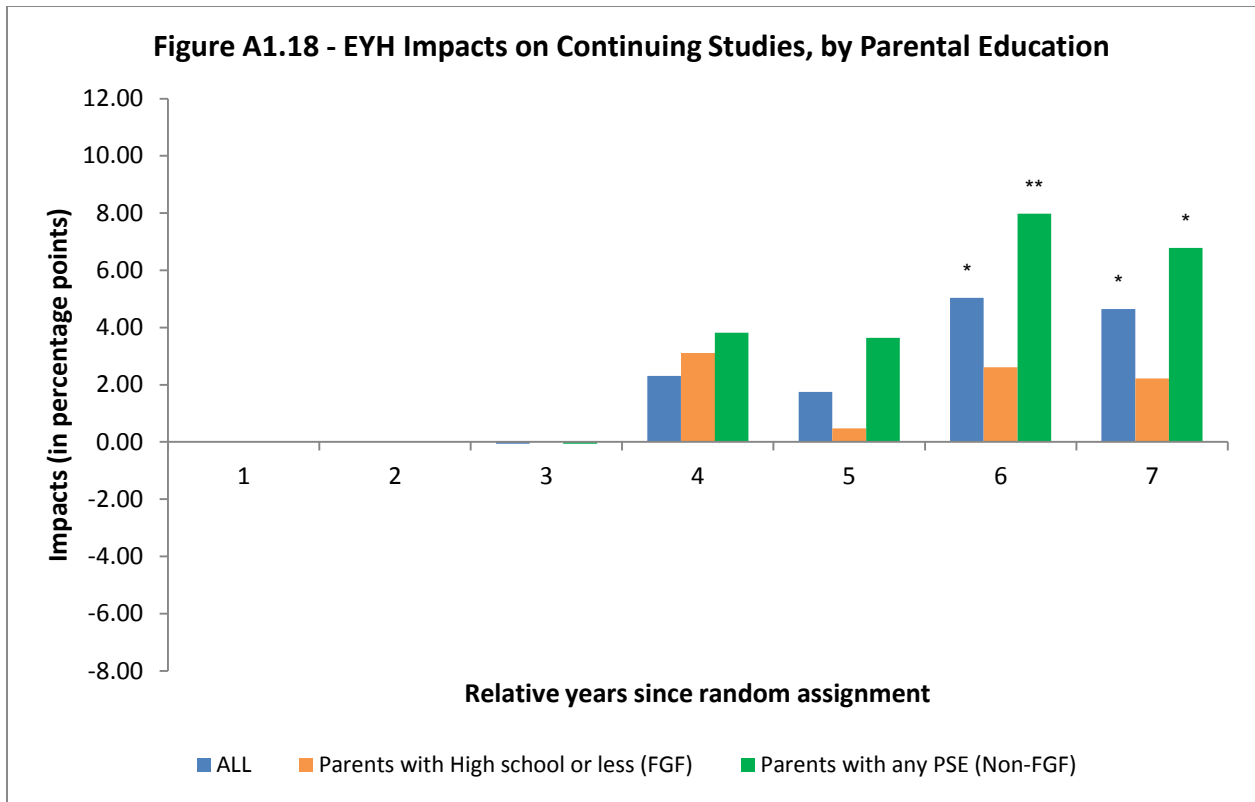


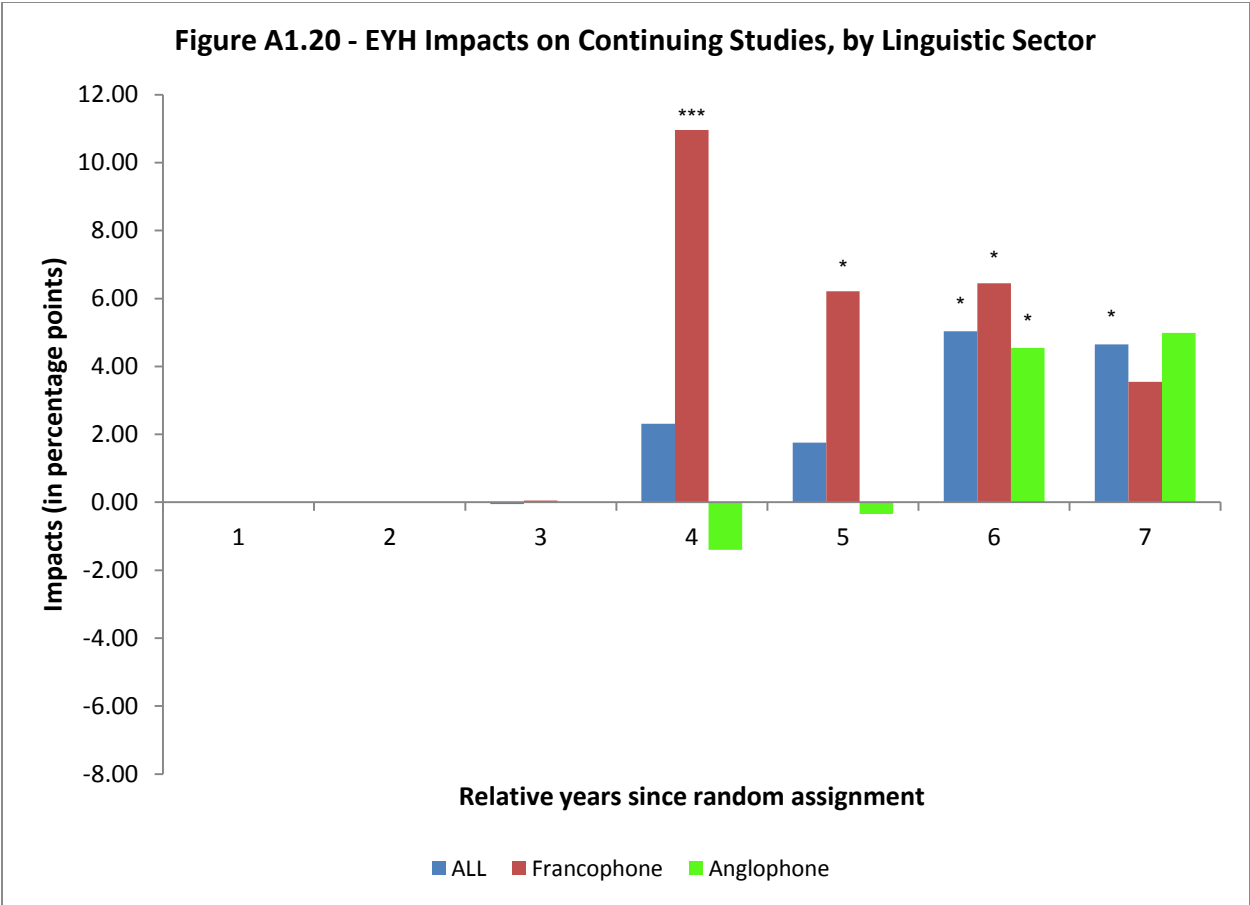




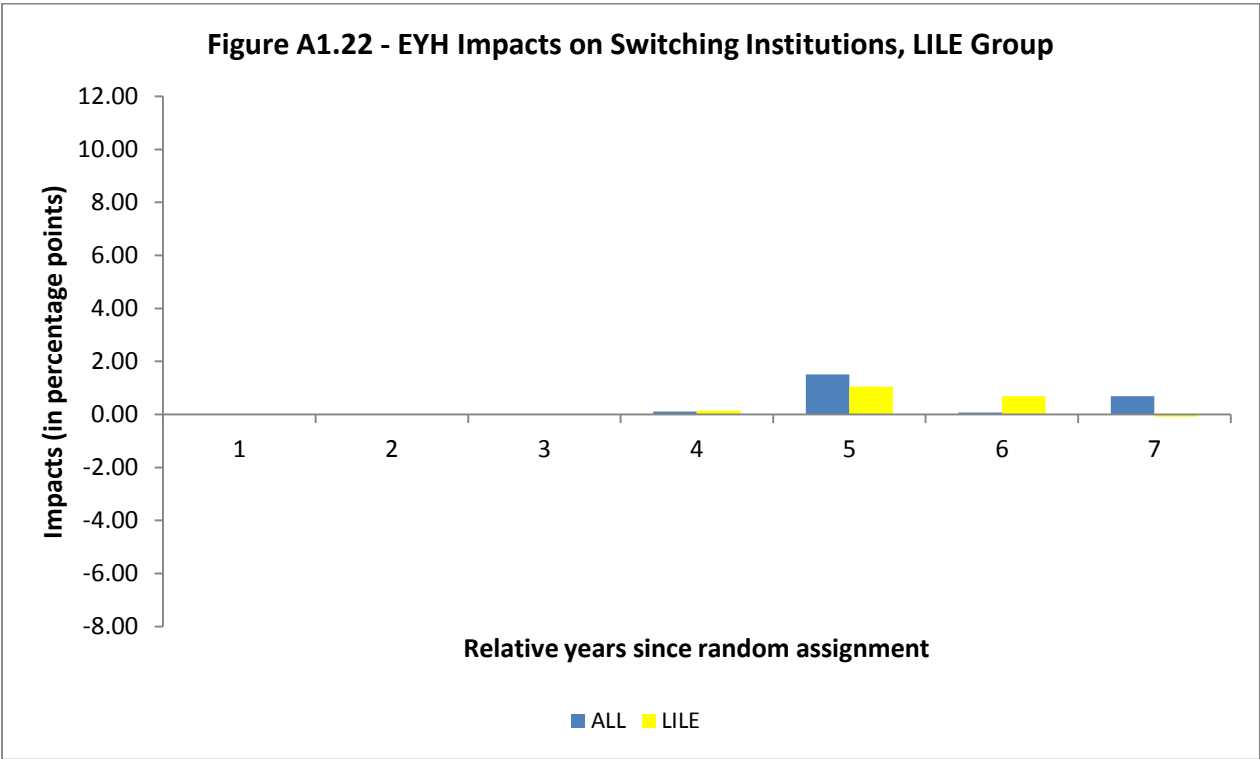
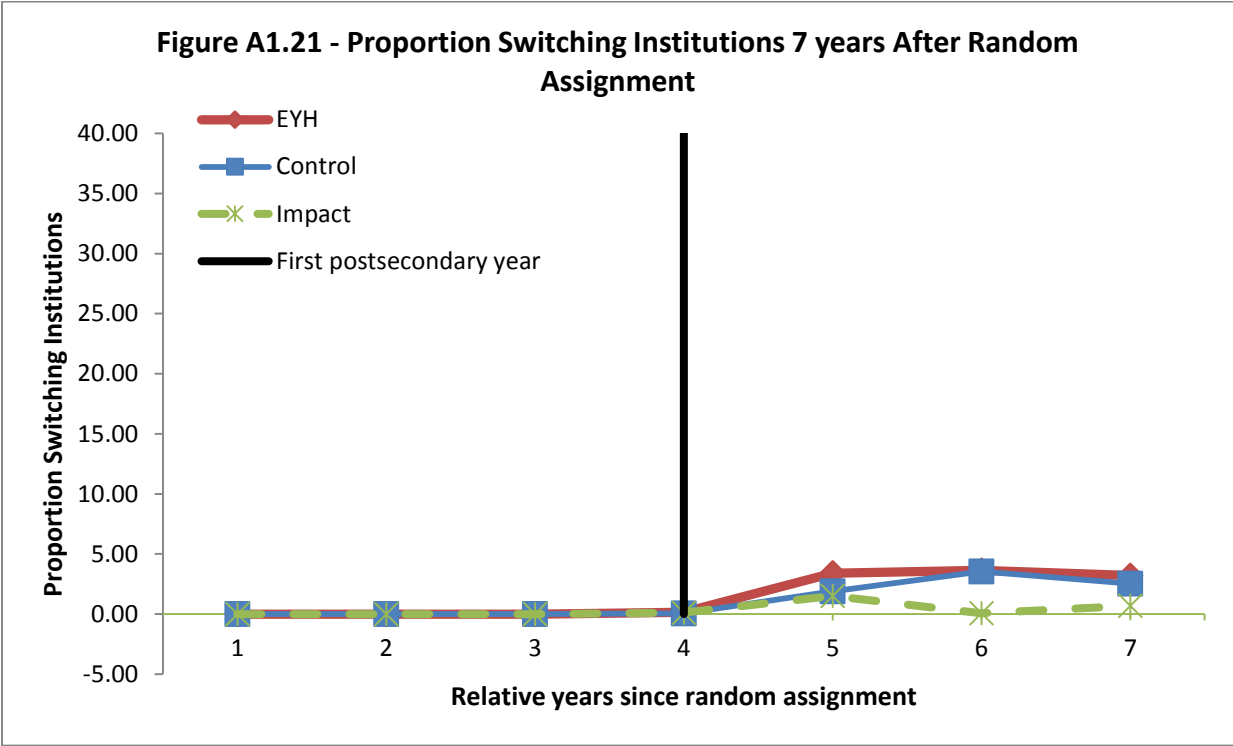
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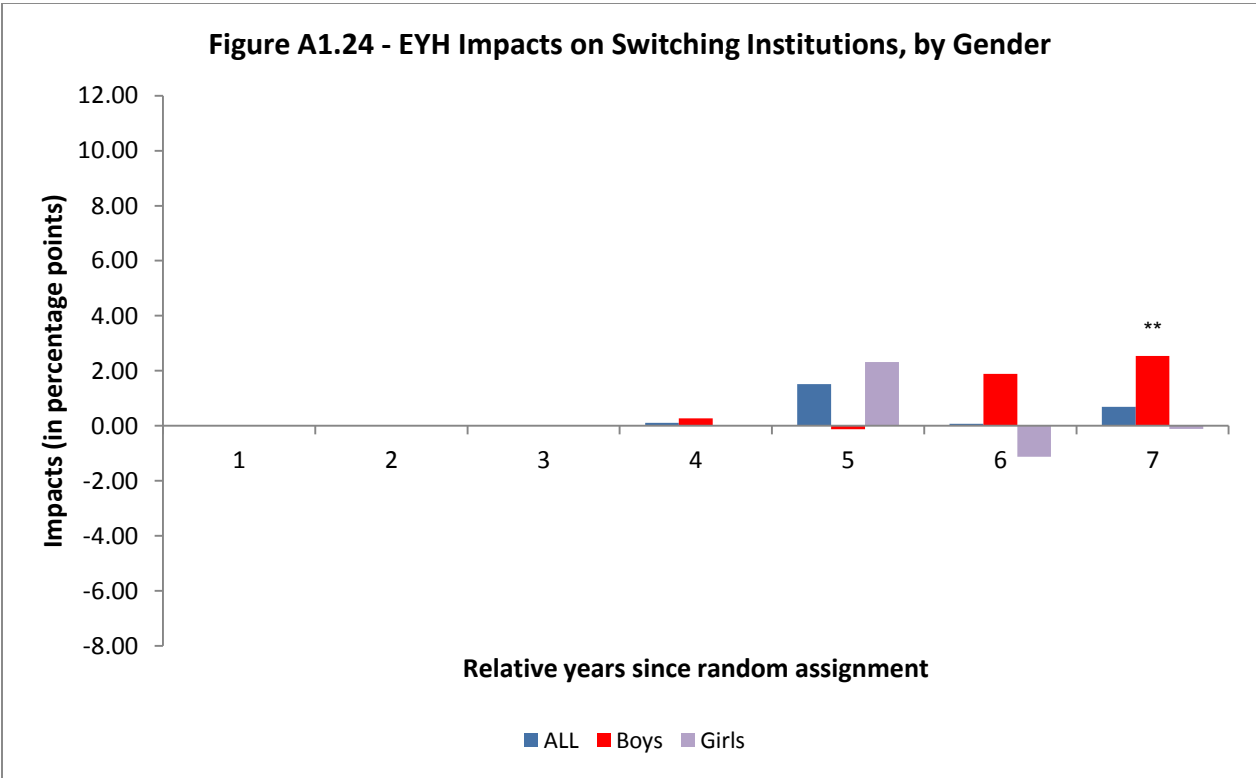
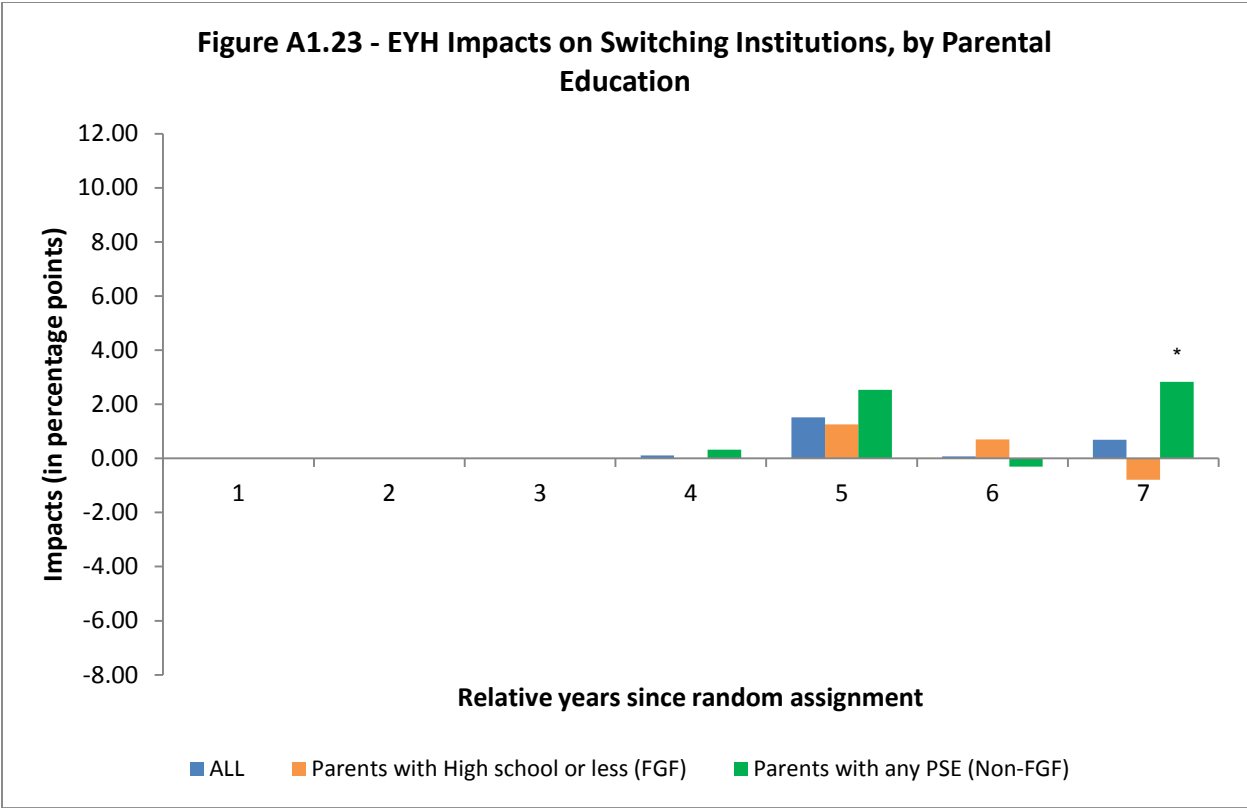


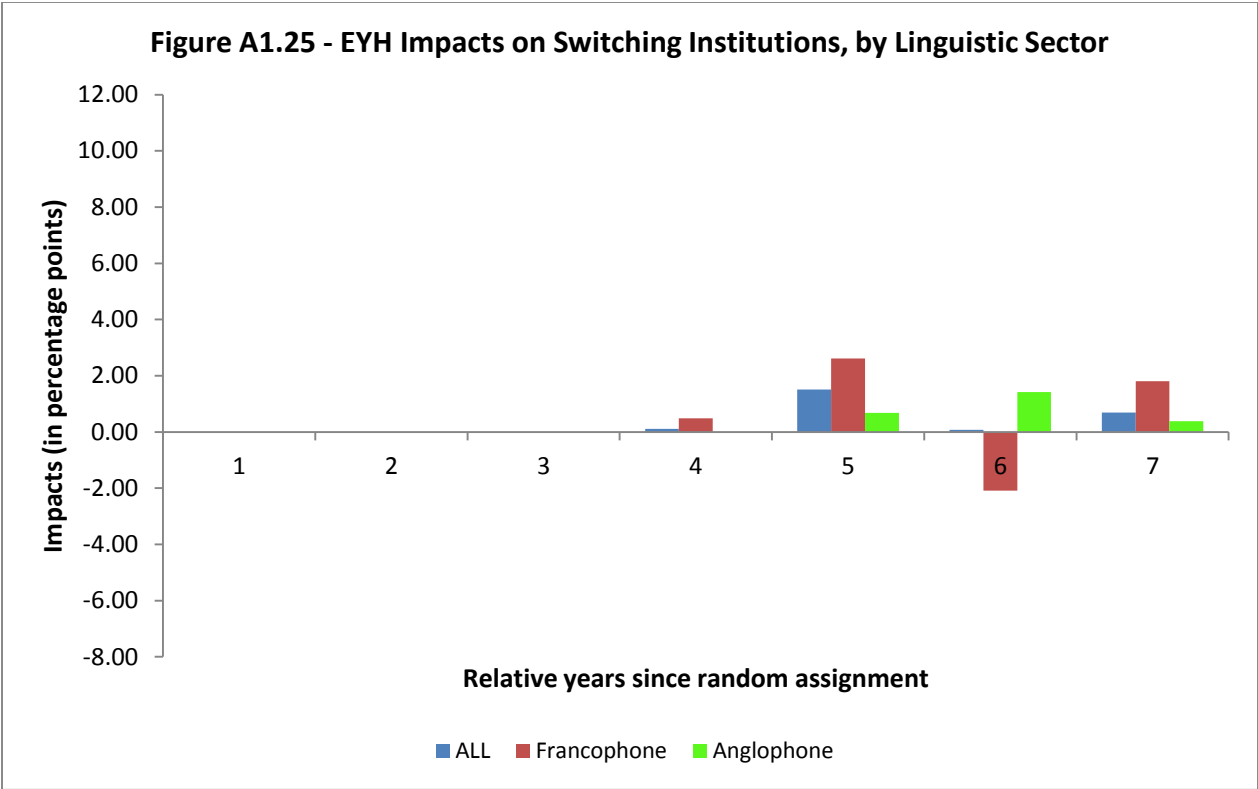




Switching institutions (university or college)

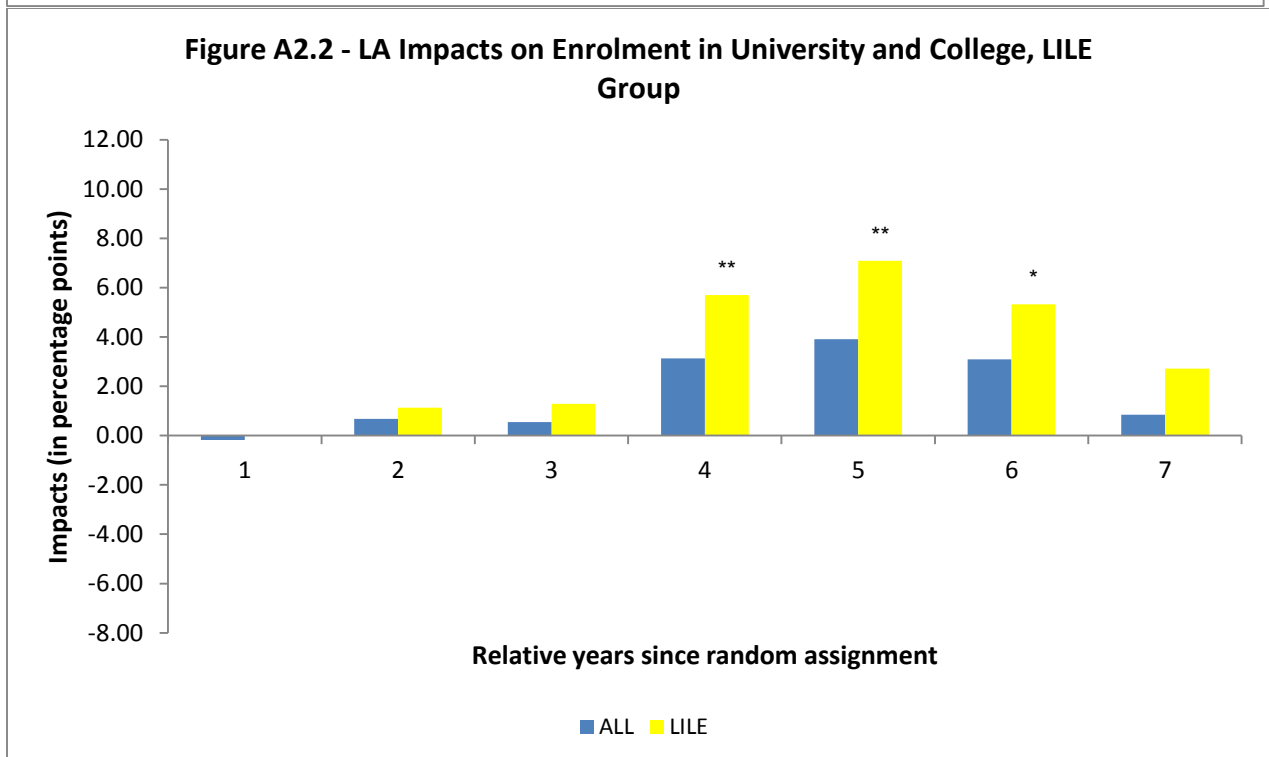
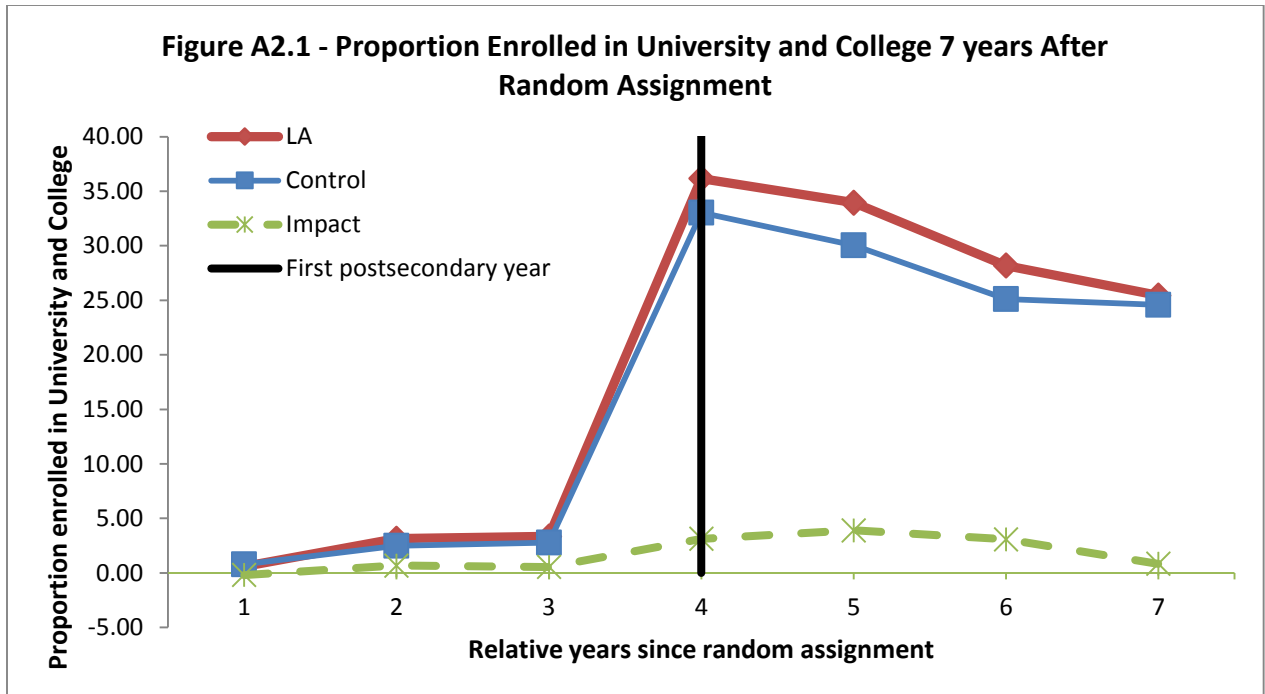


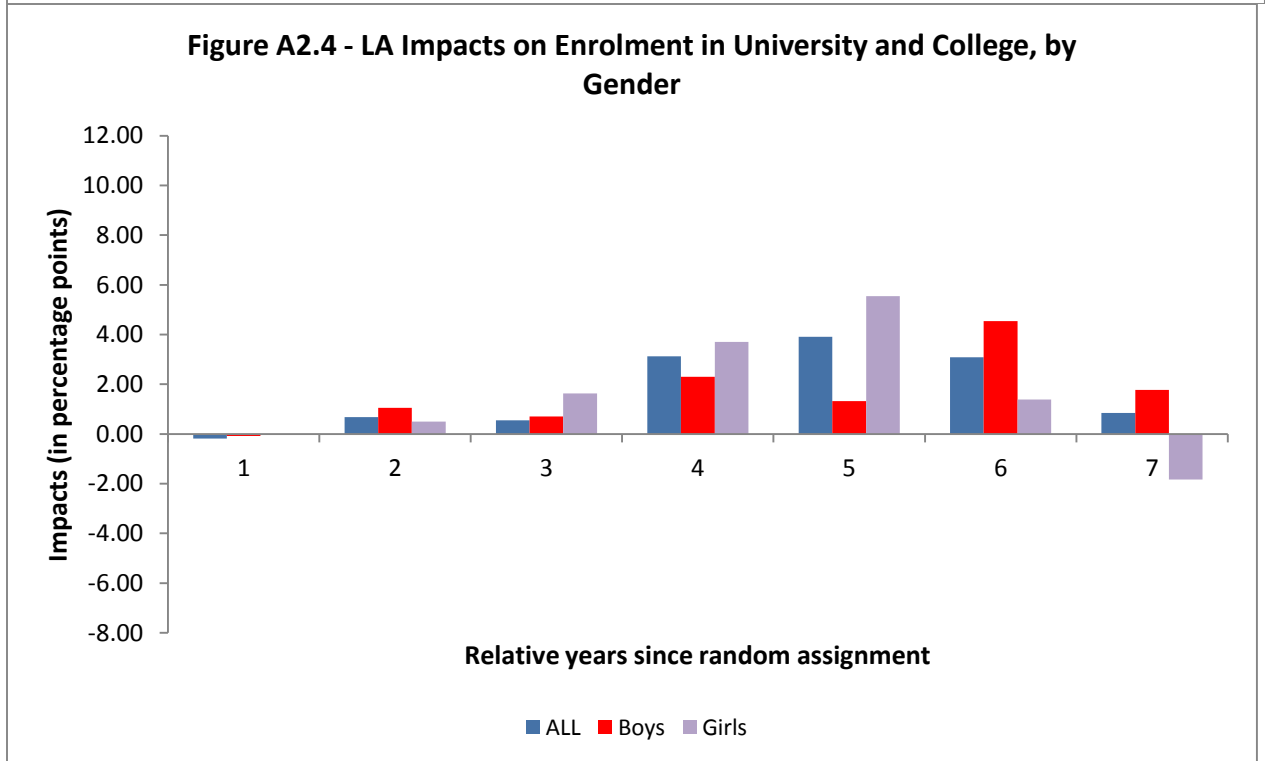
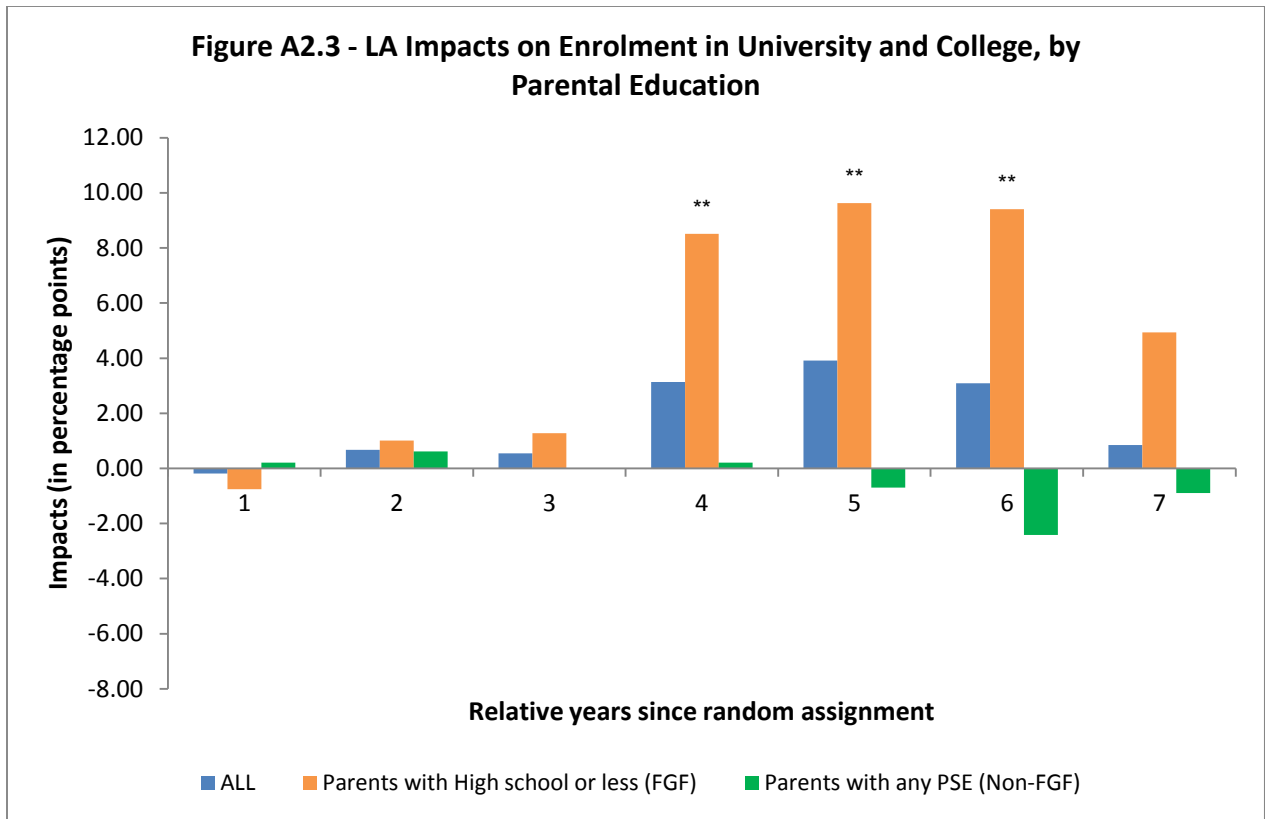


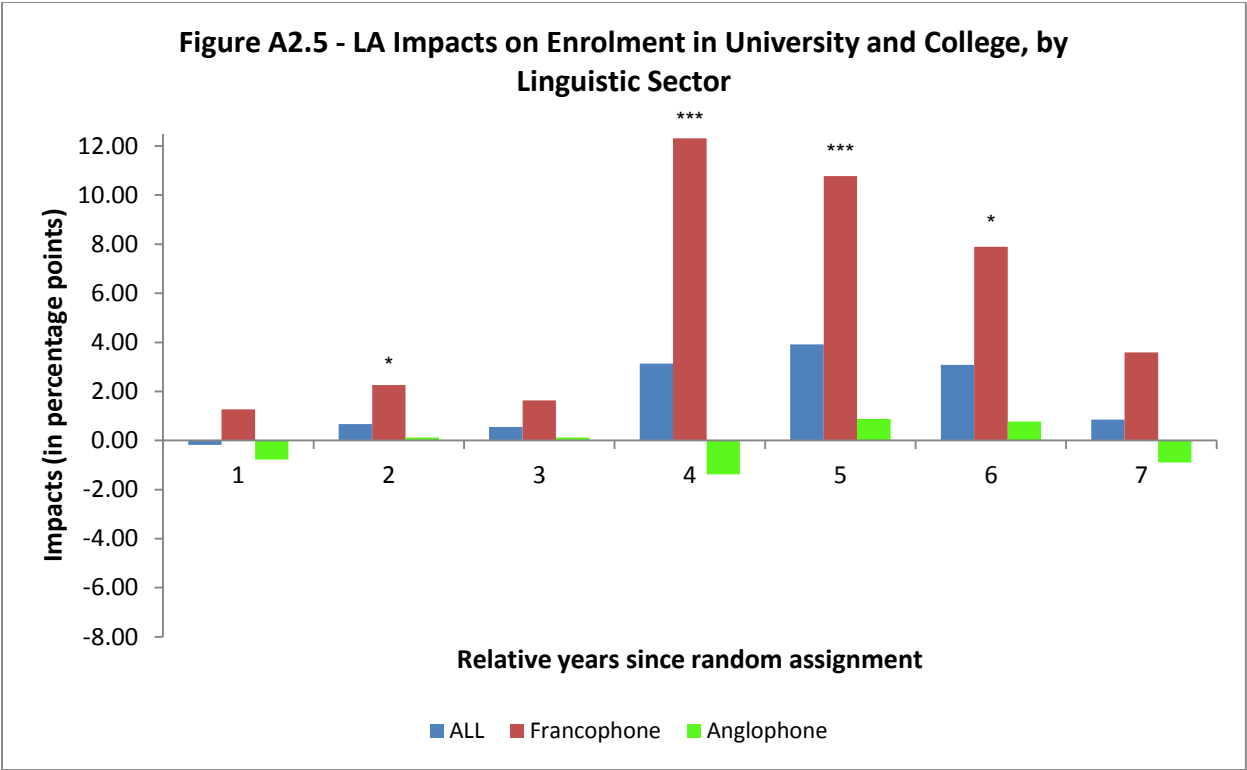


Appendix 2: Impacts of offering *Learning Accounts* (graphs)

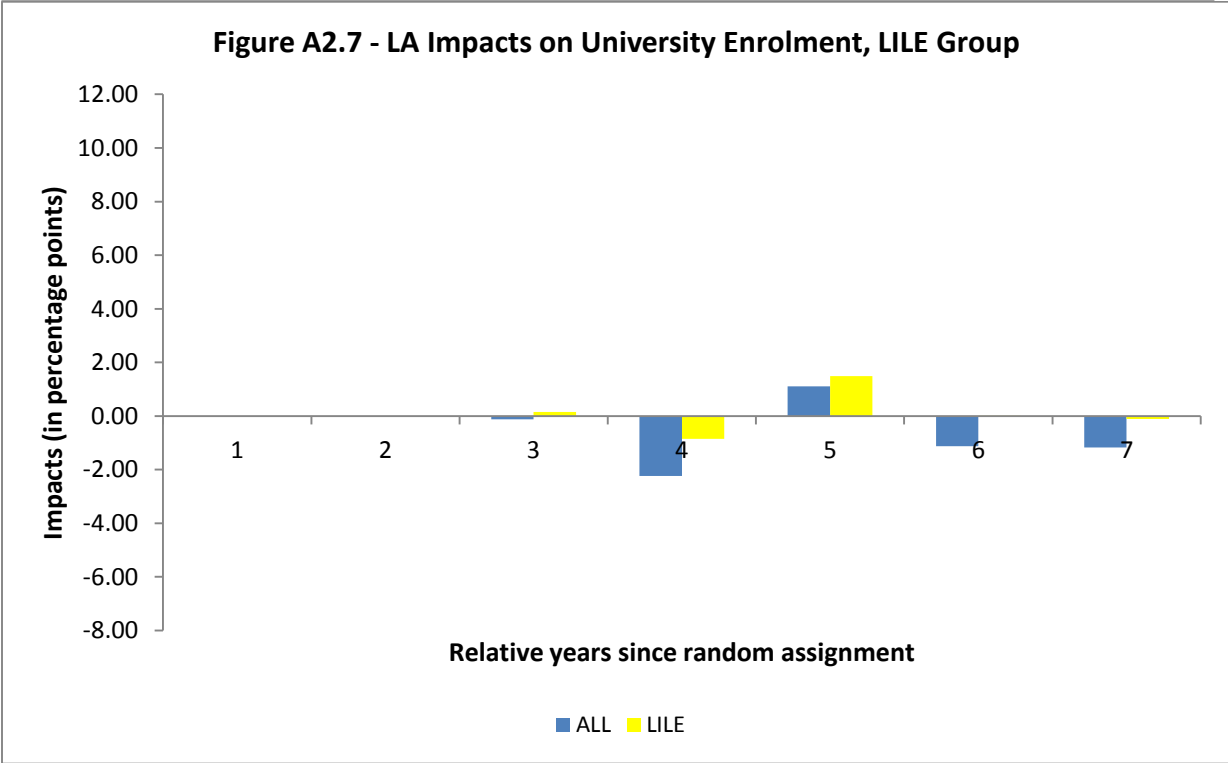
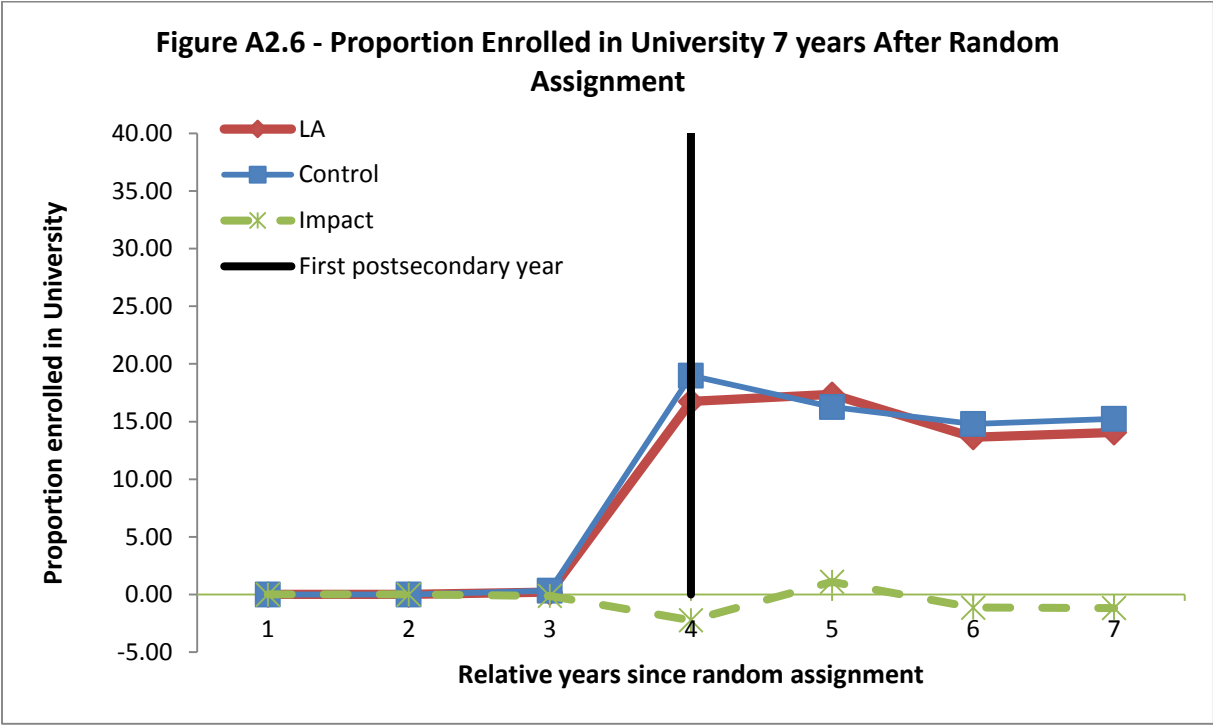
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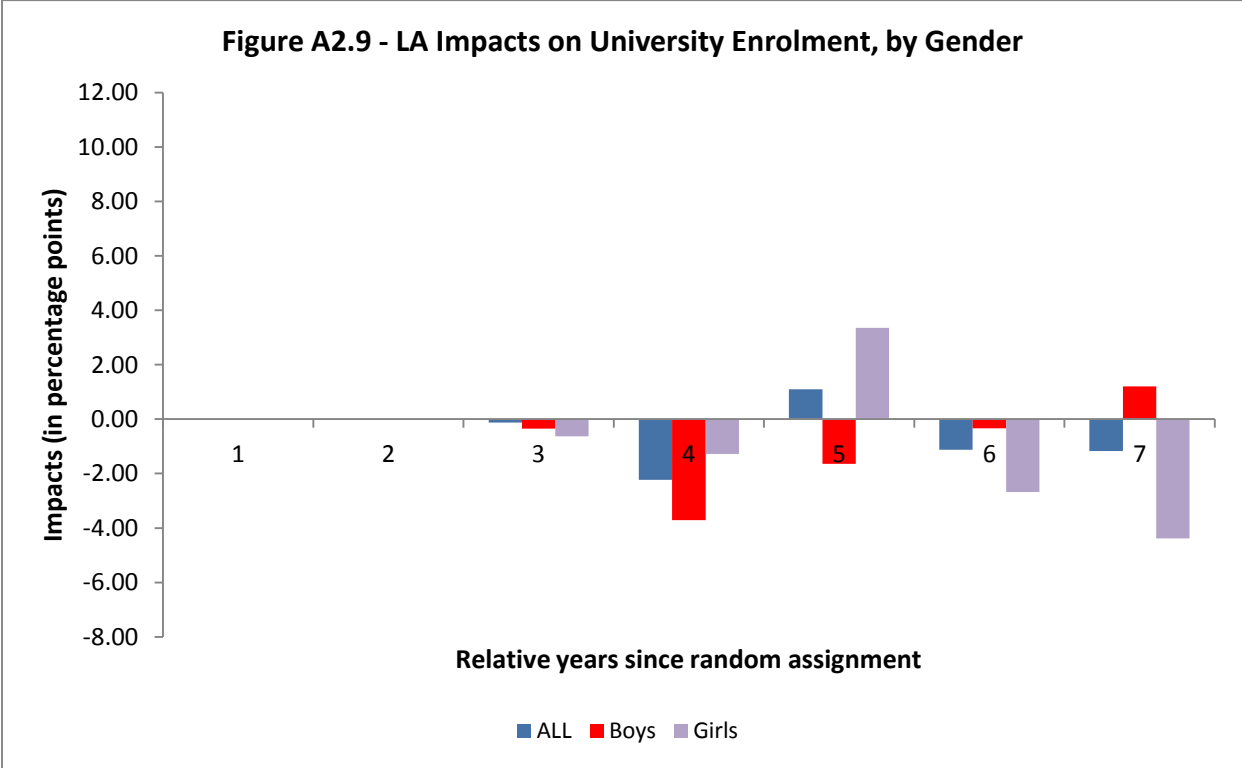
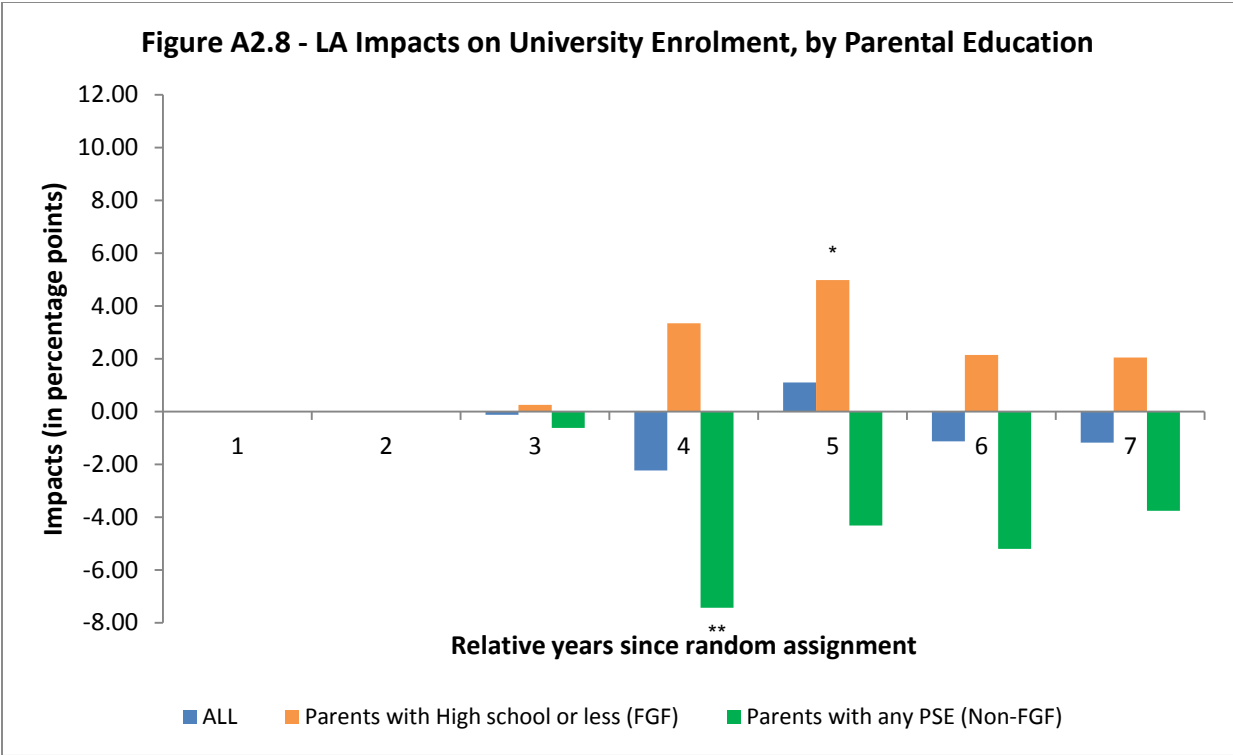


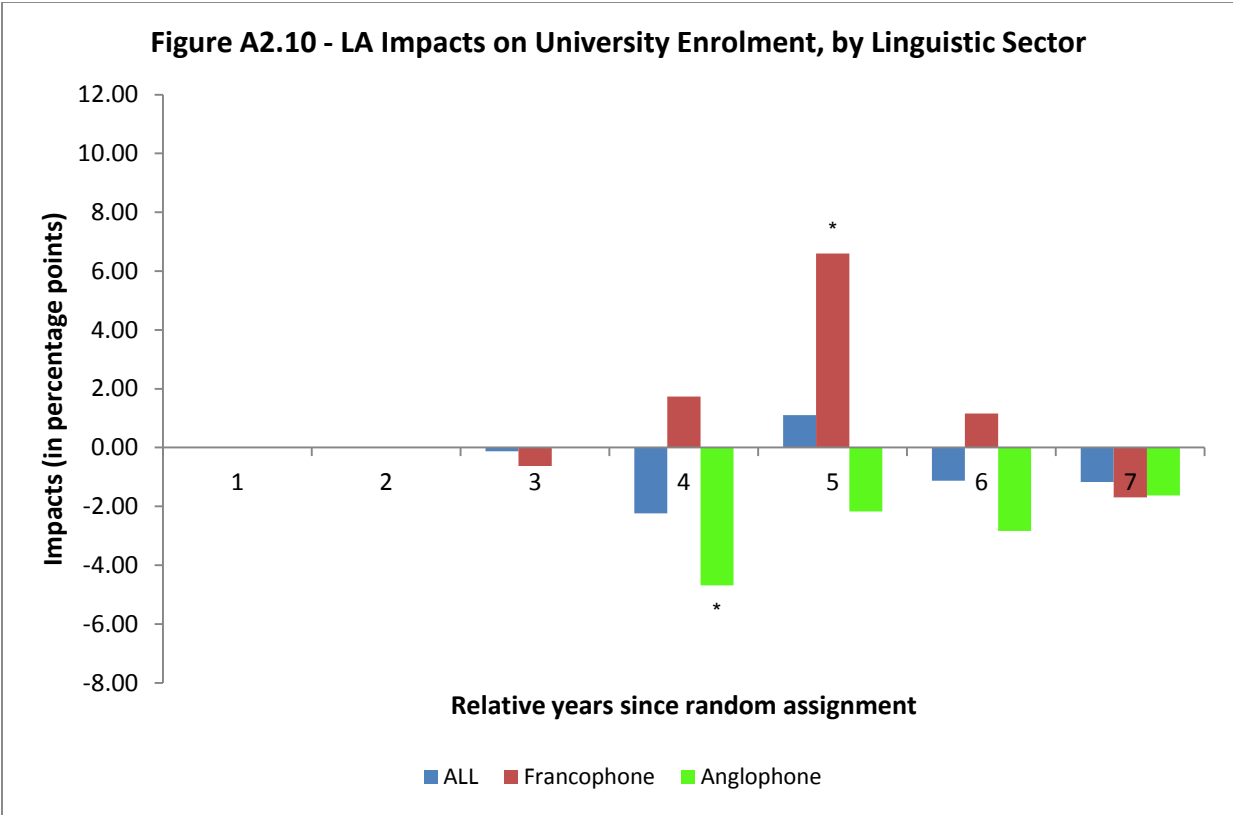




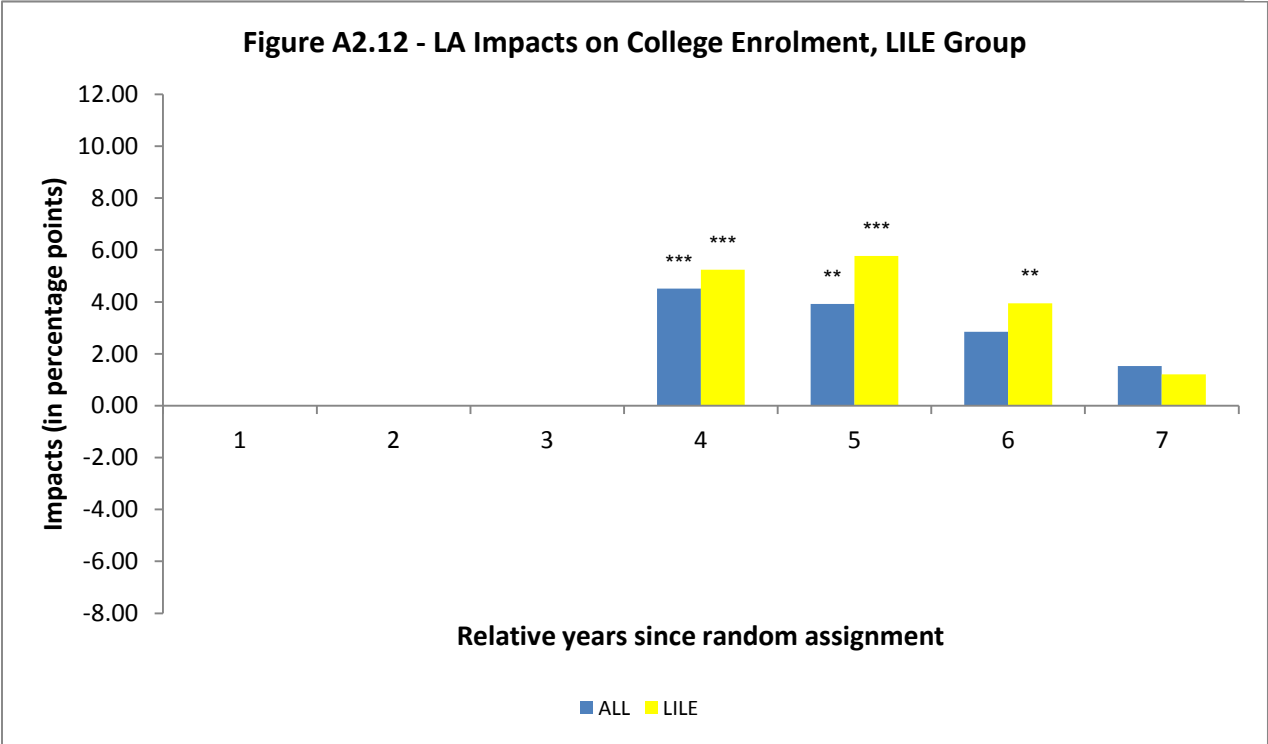
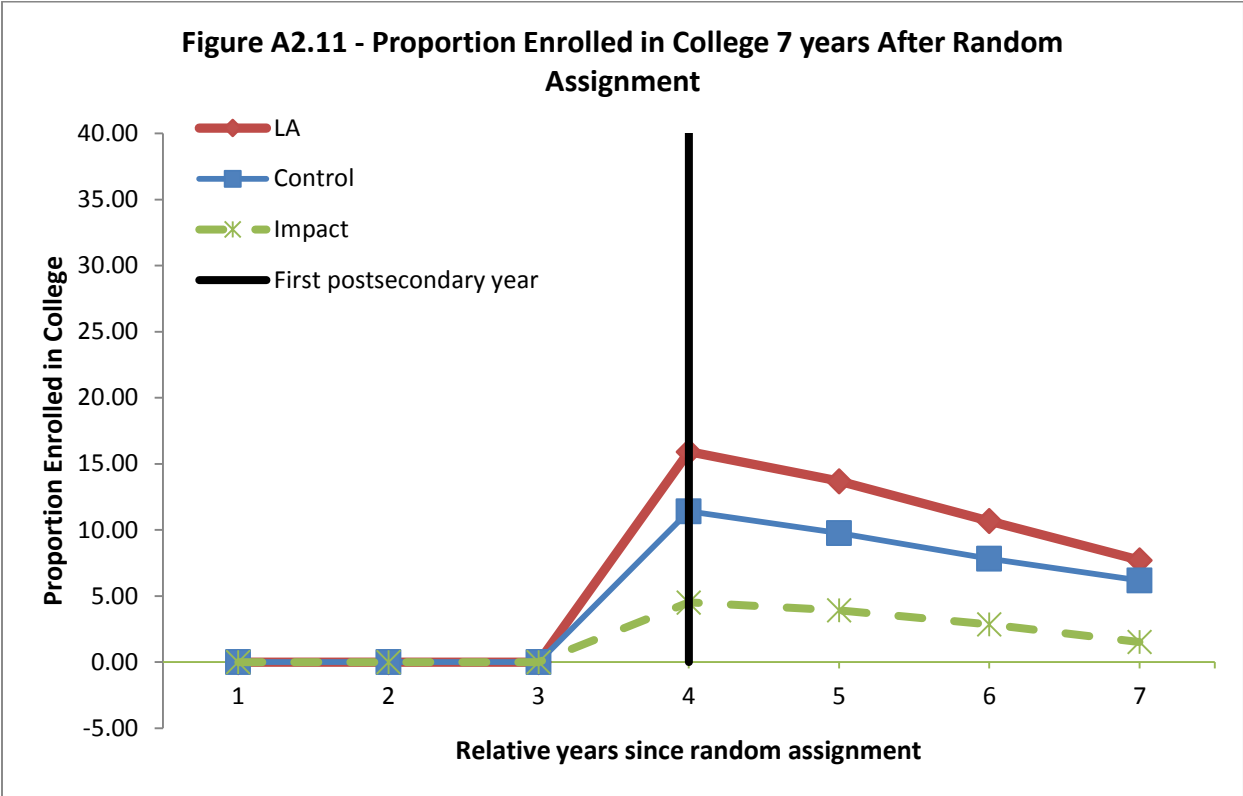
Enrolment in university

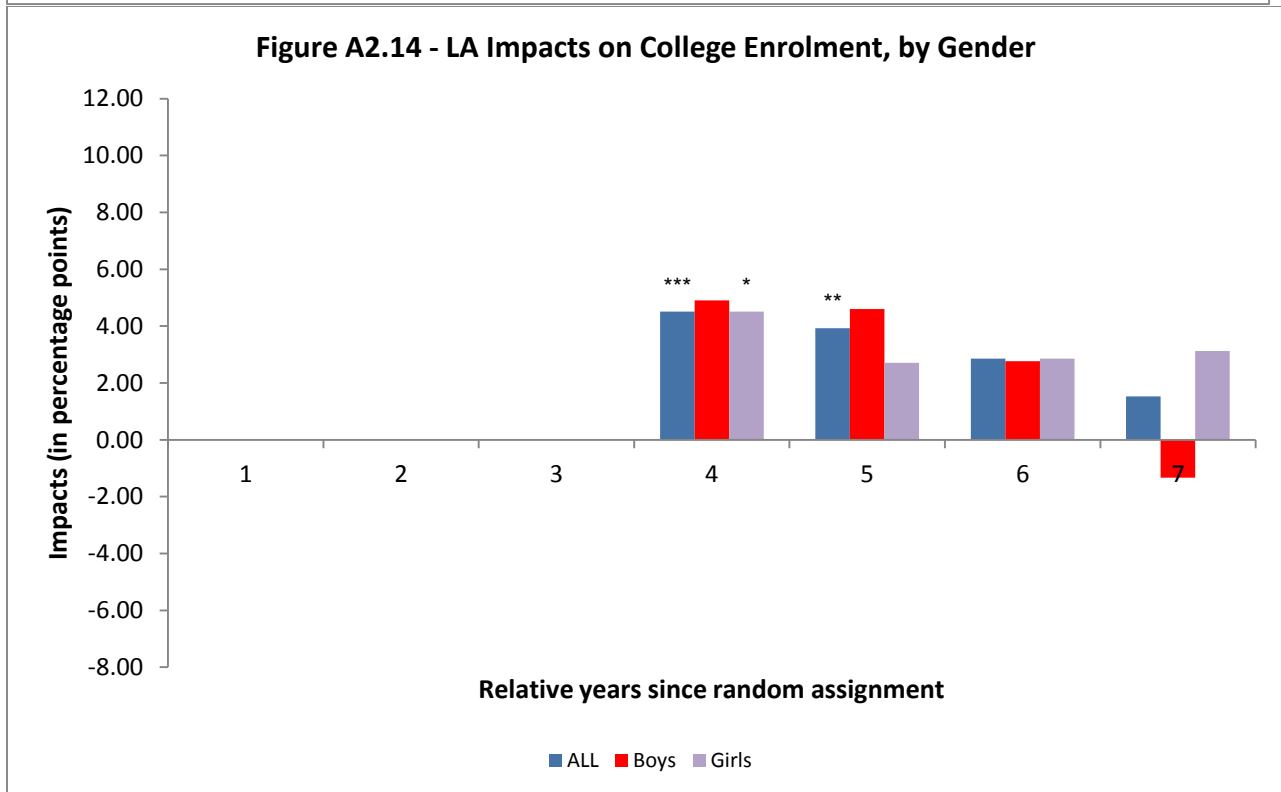
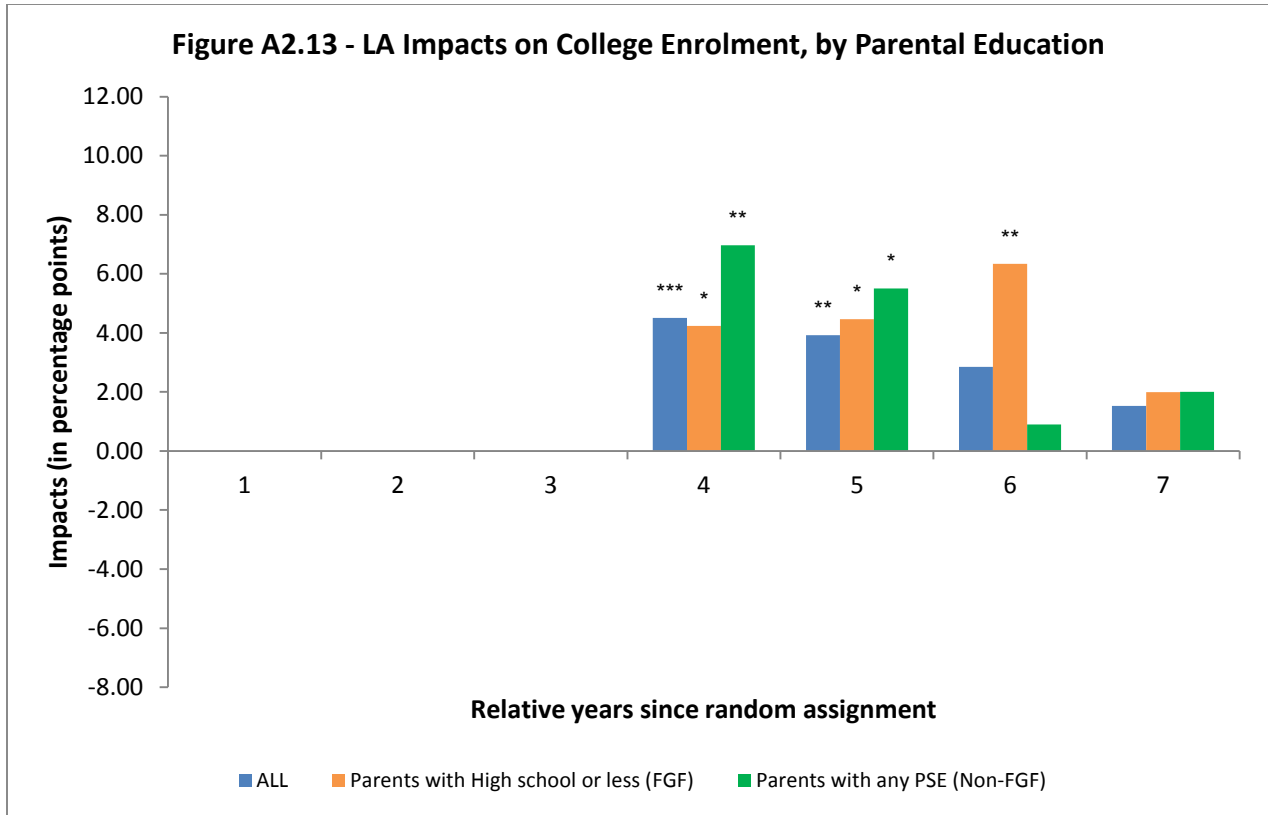


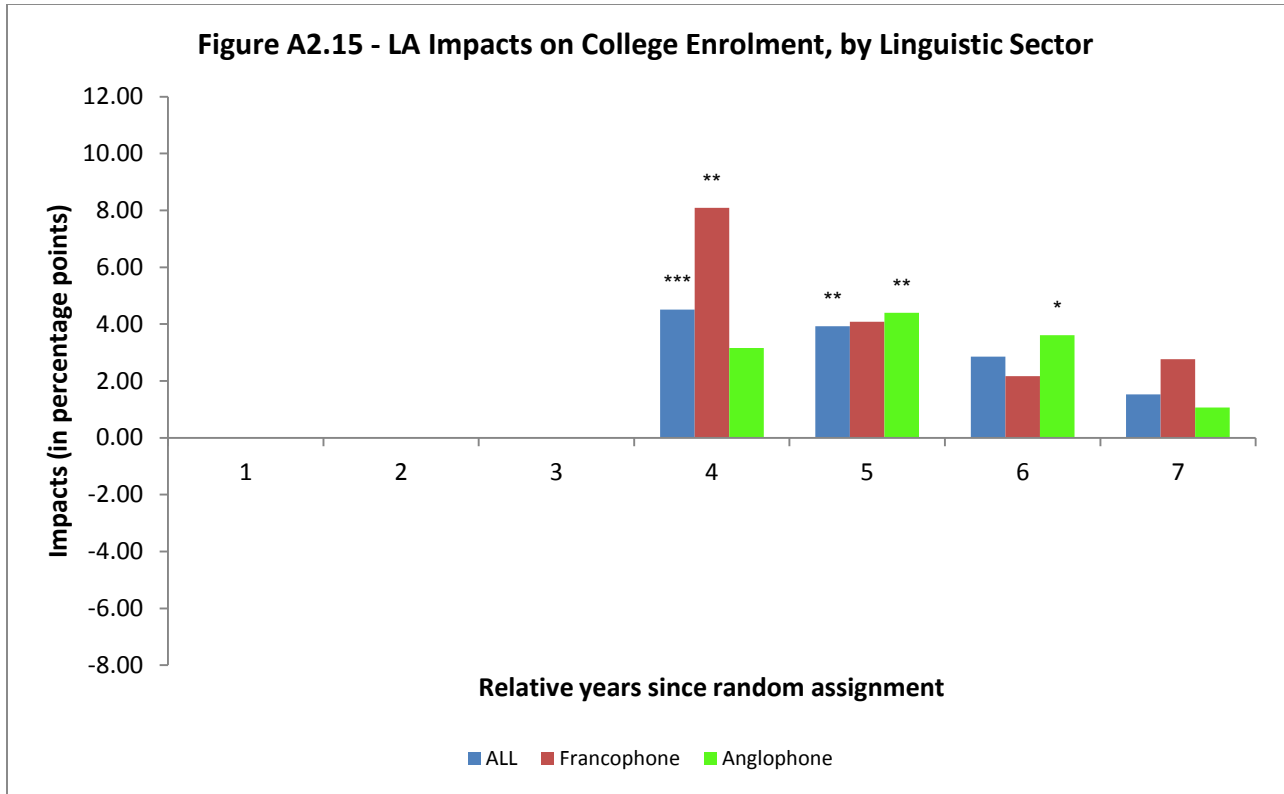




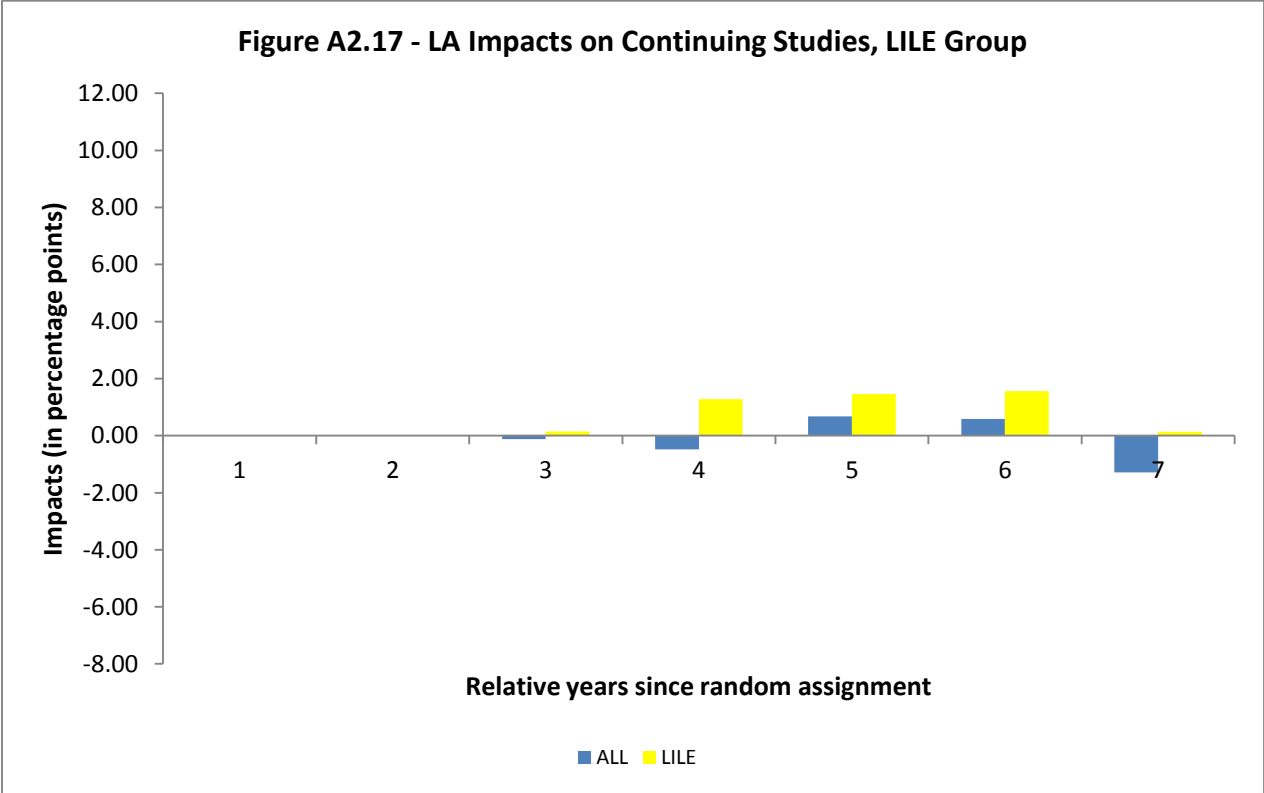
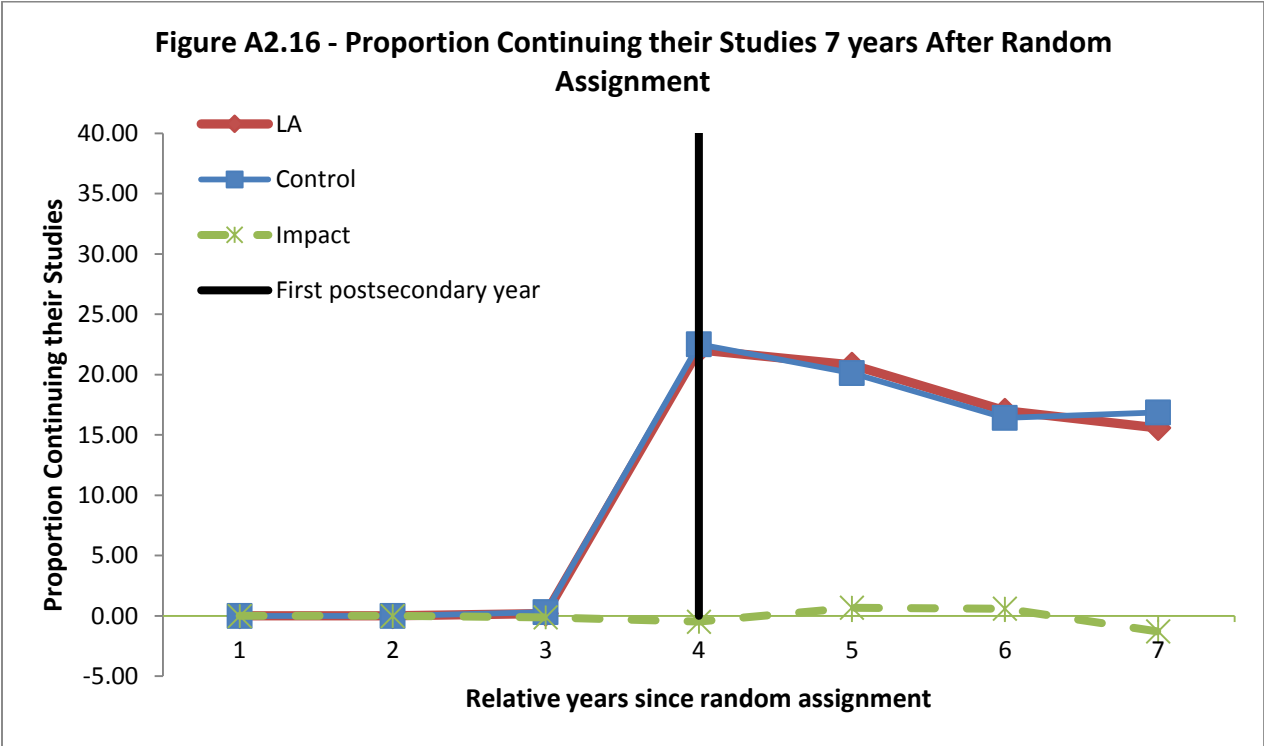
Enrolment in college

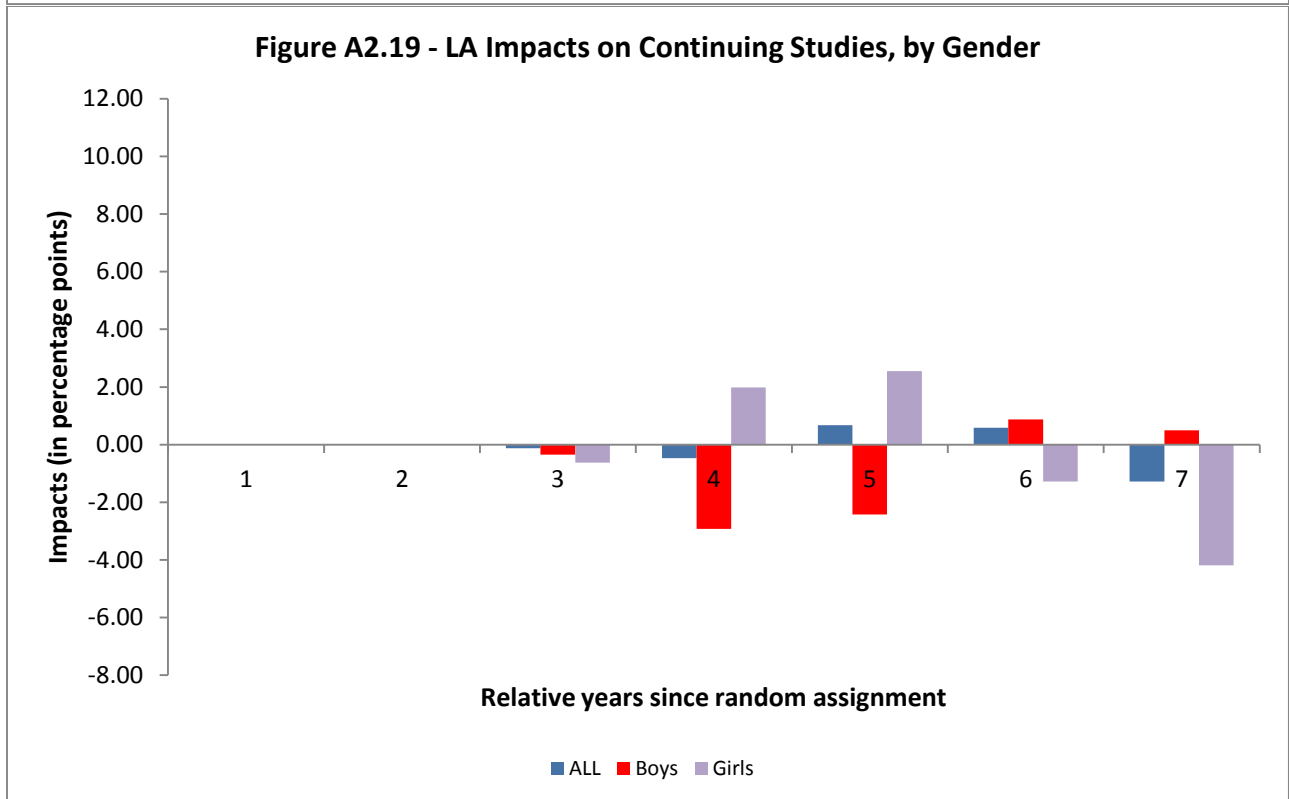
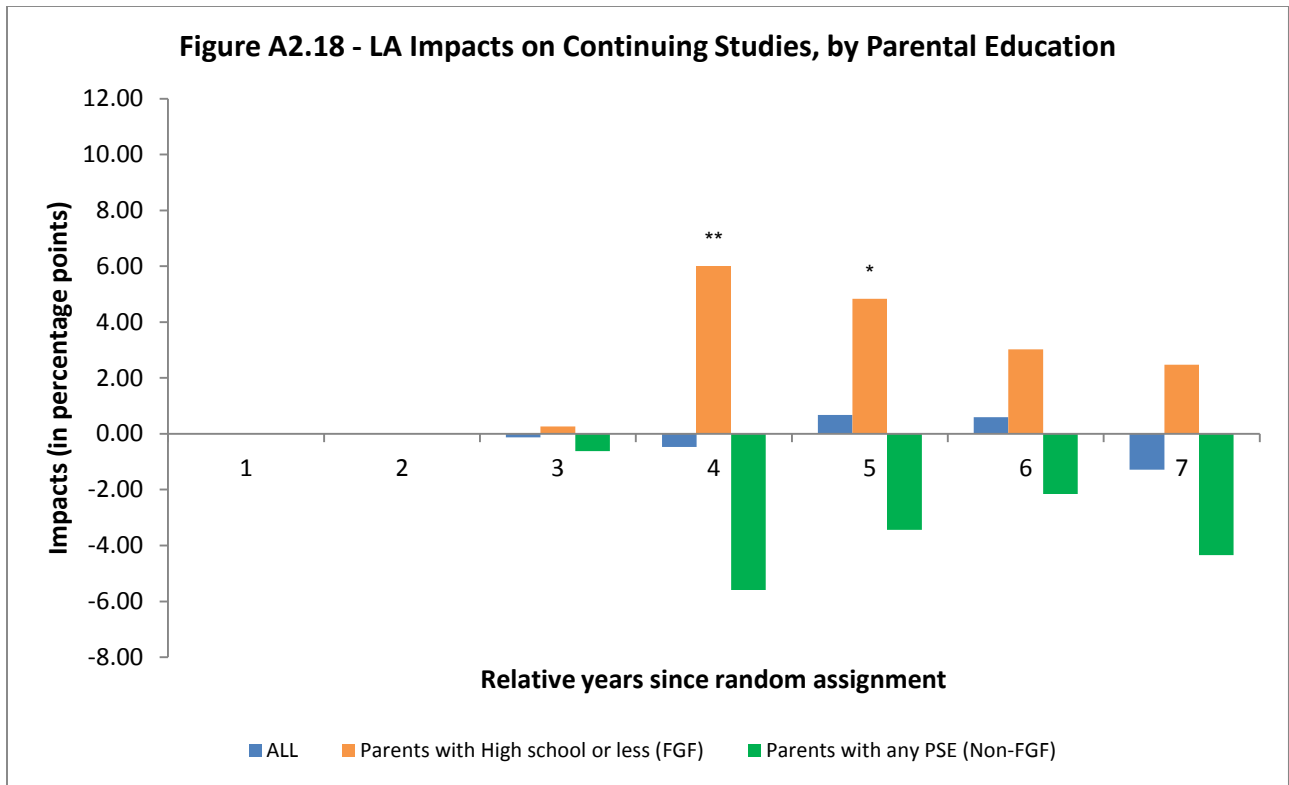


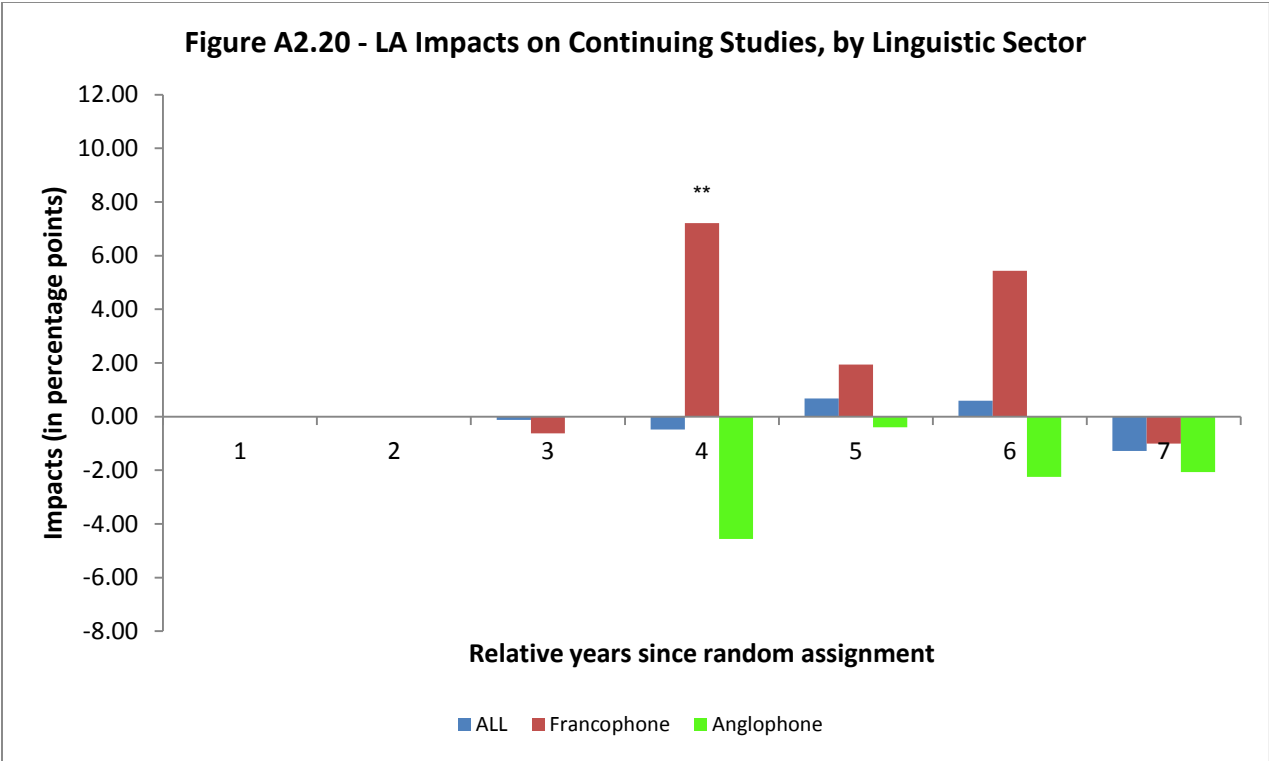




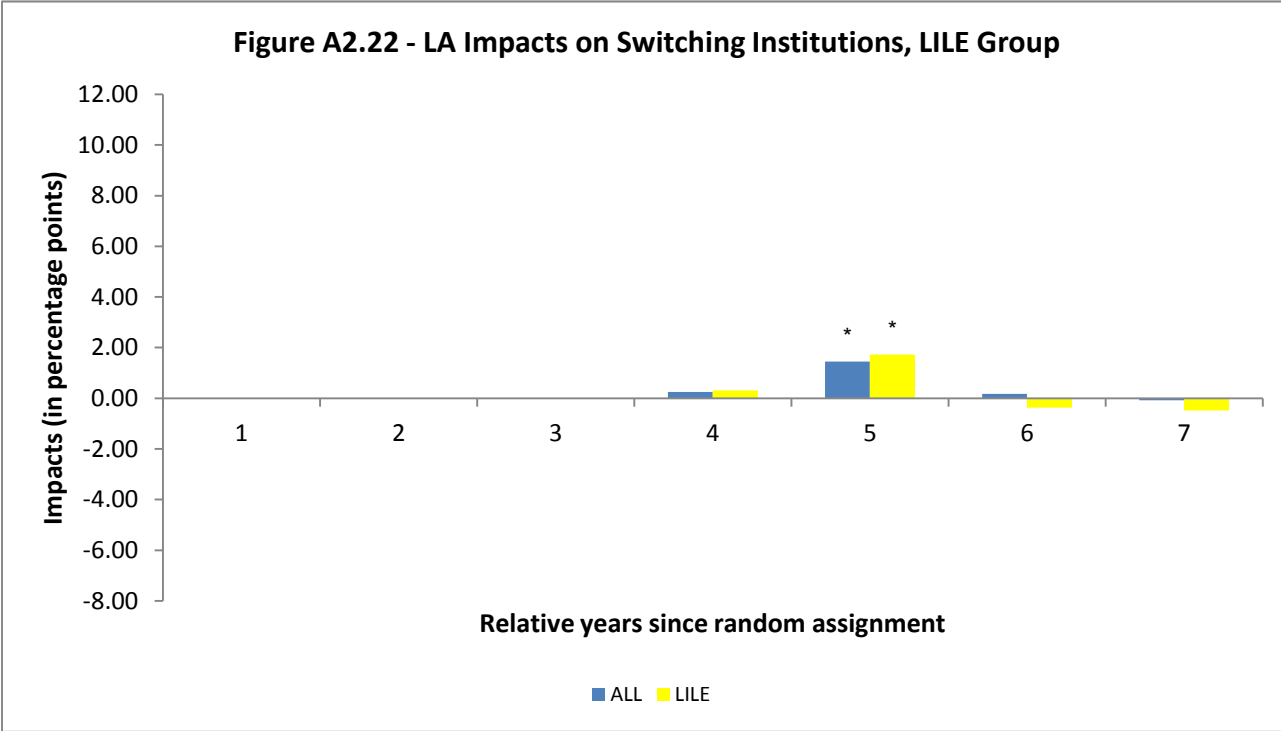
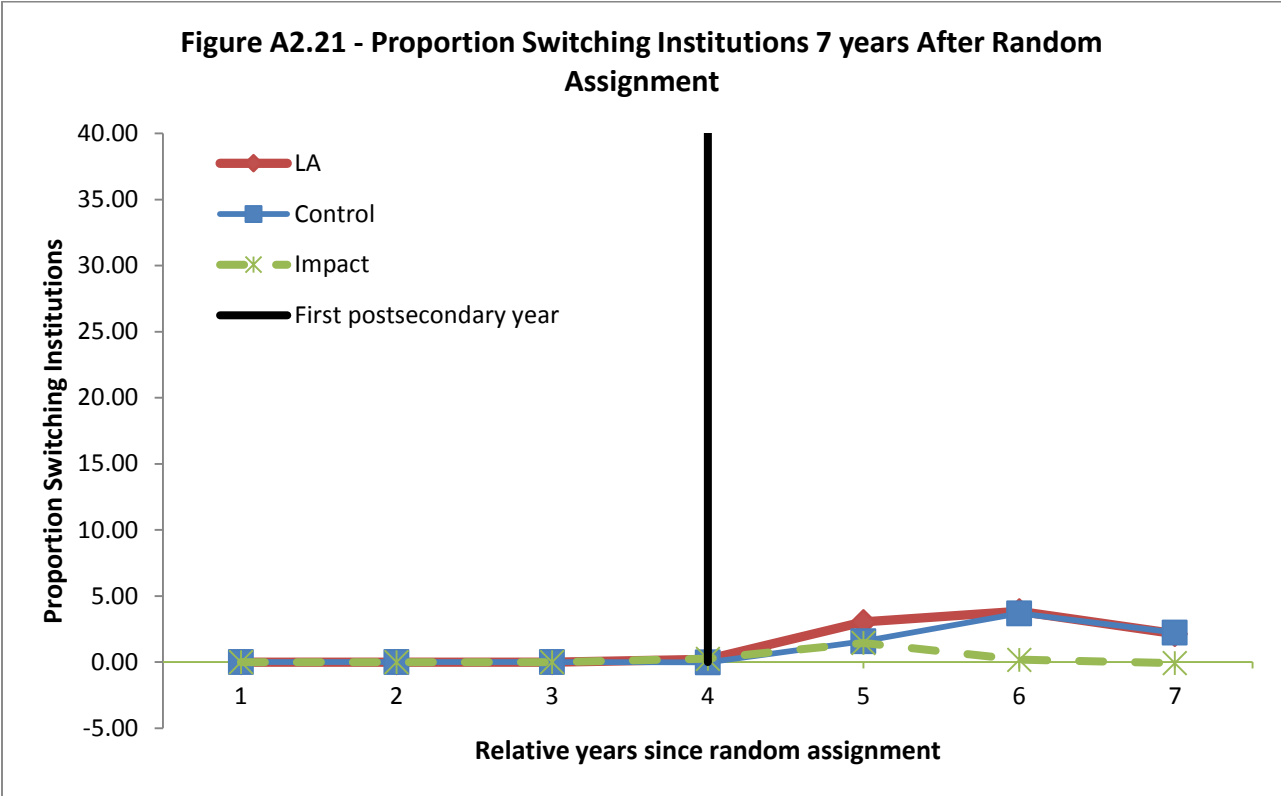
Continuing studies

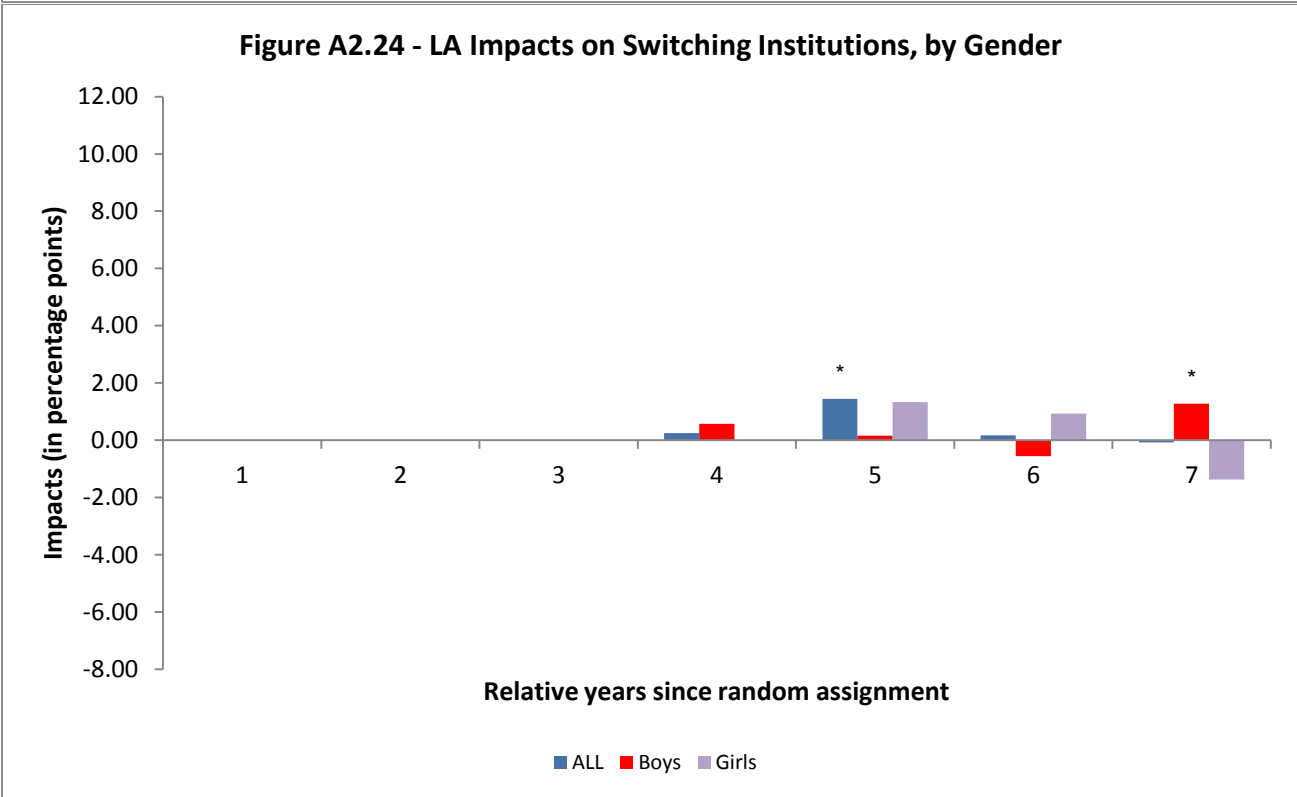
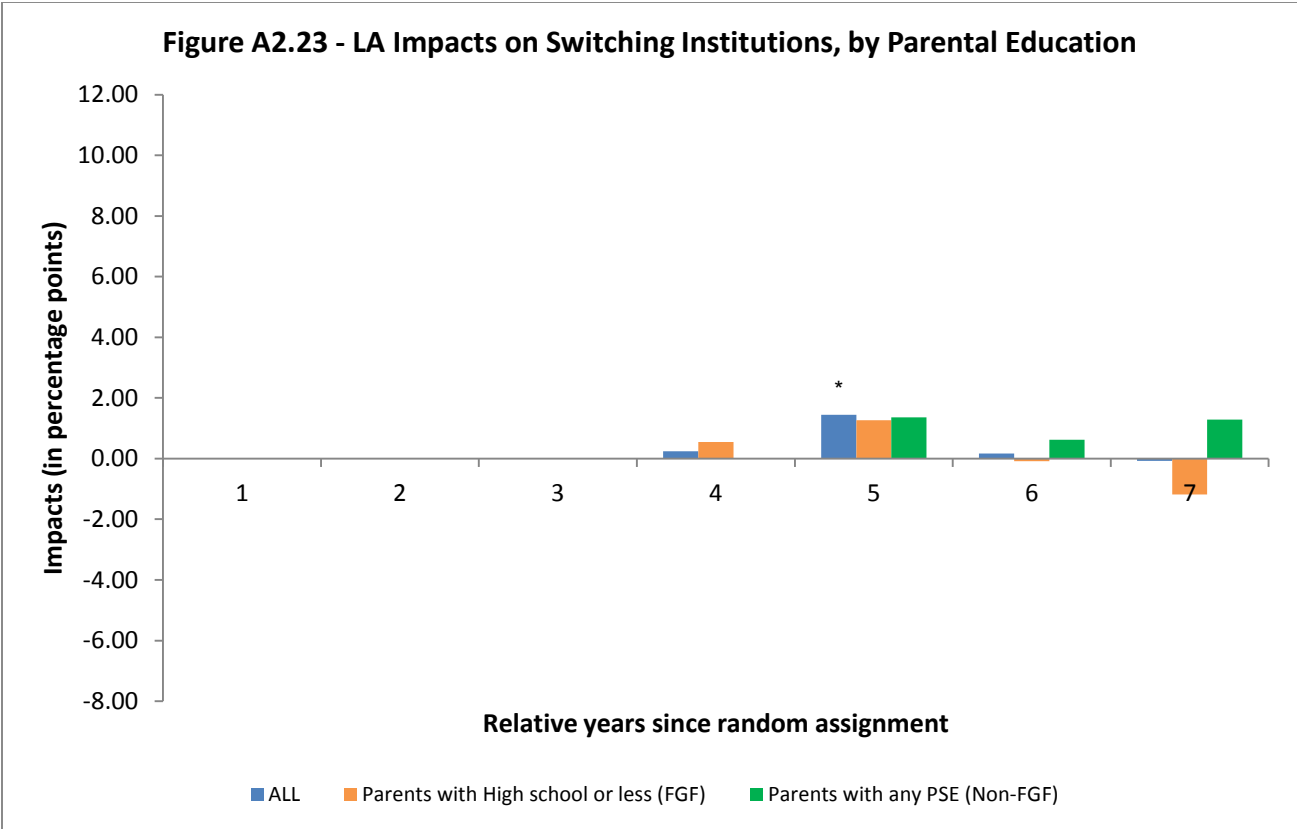


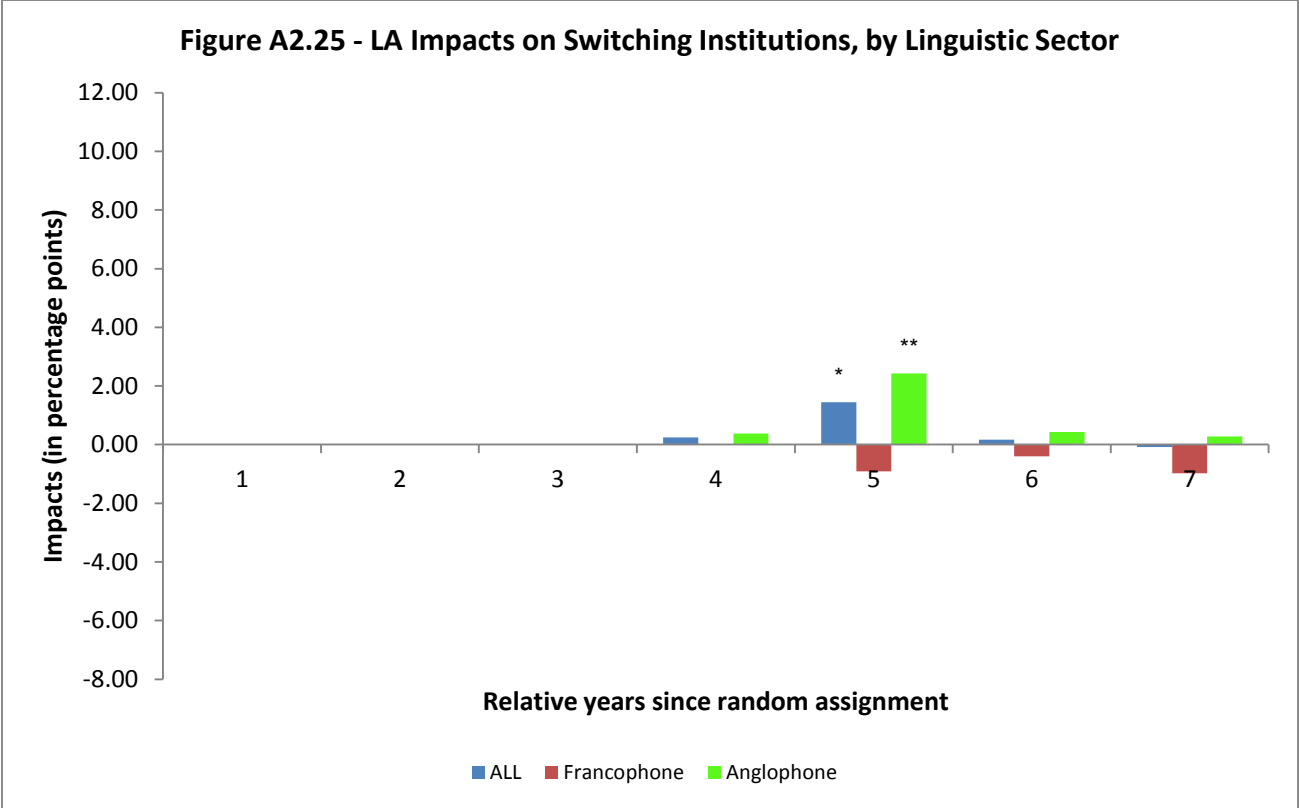




Switching institutions

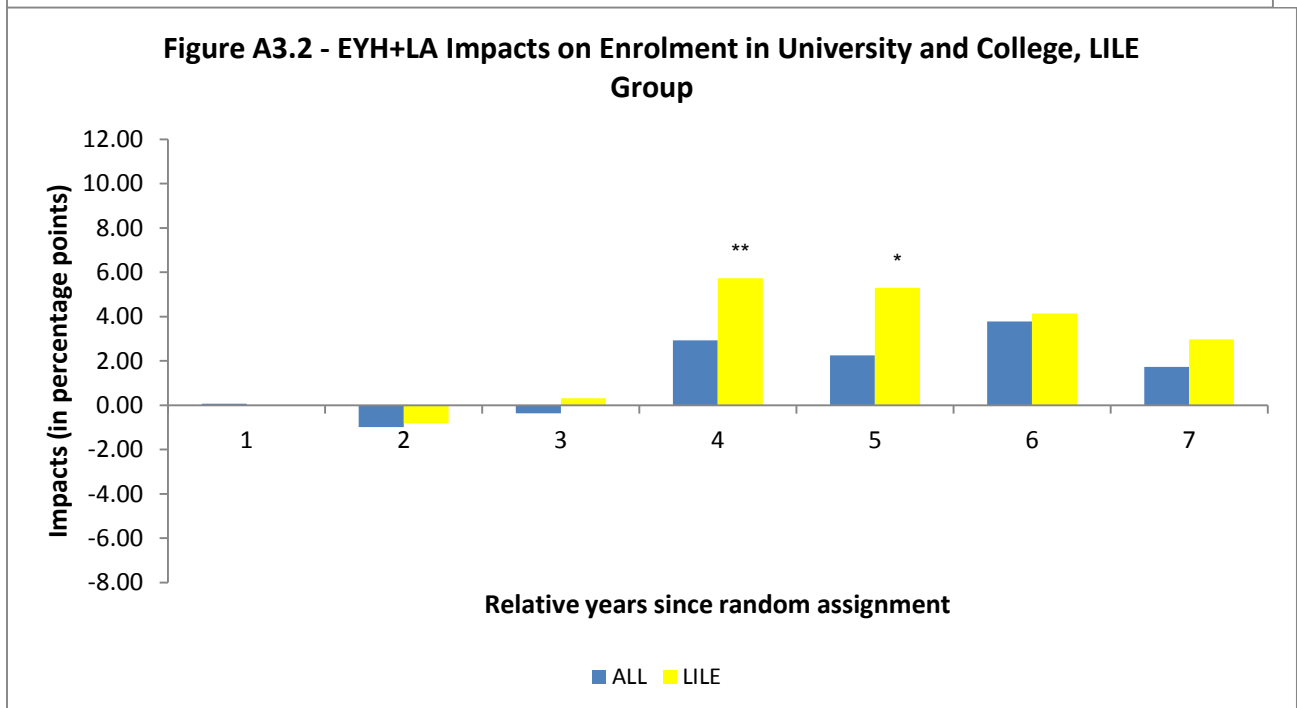
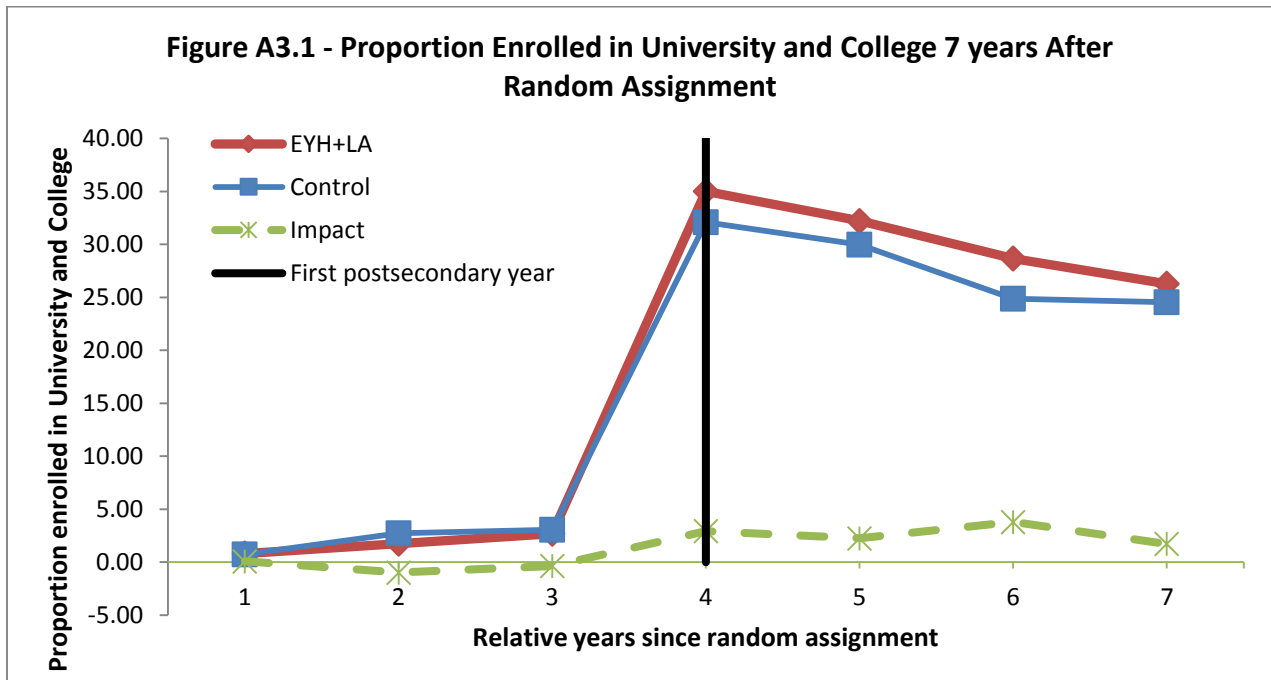


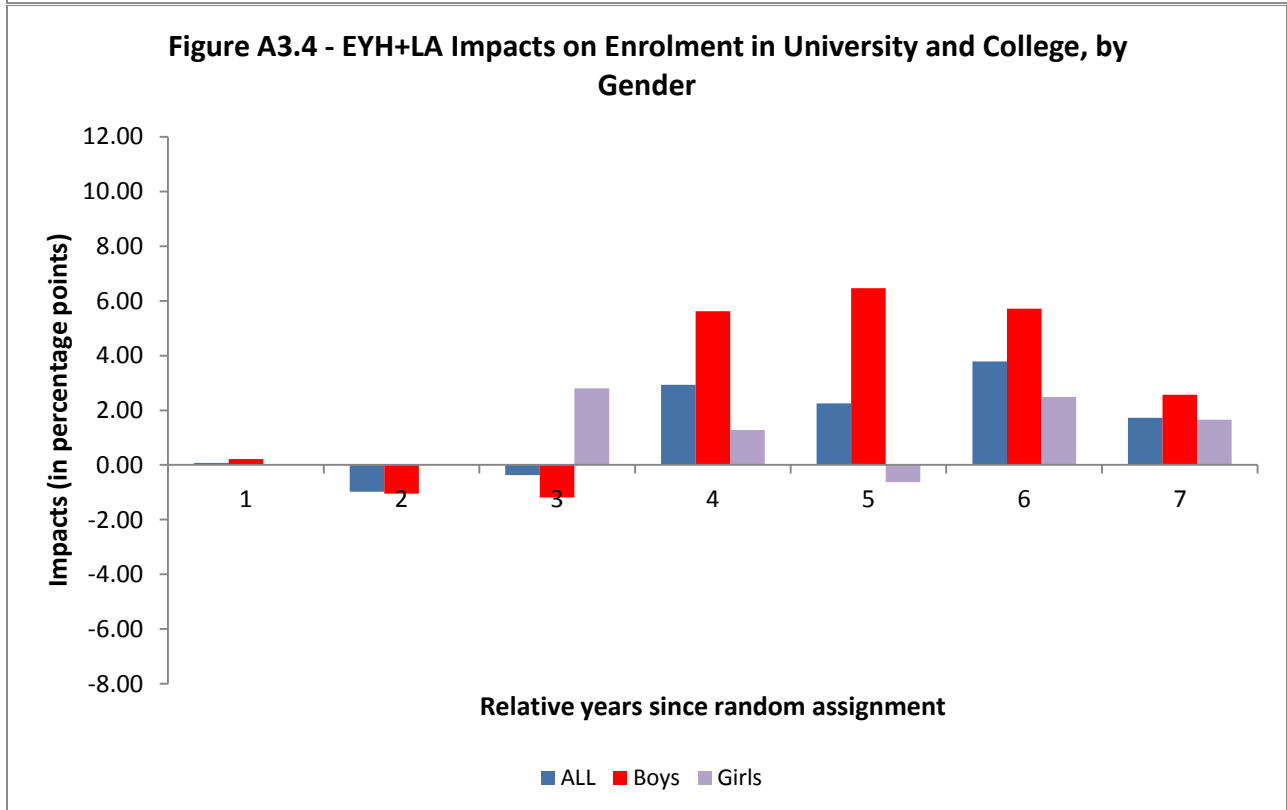
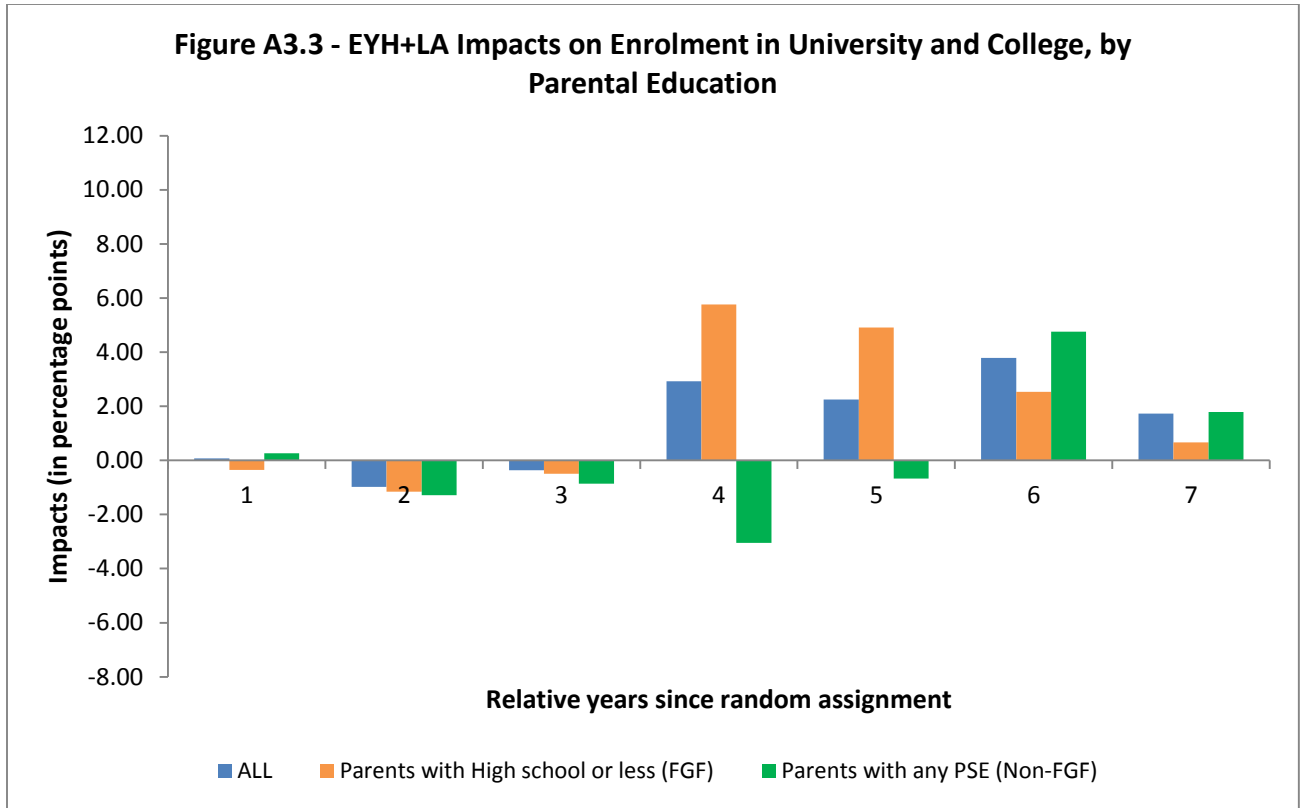


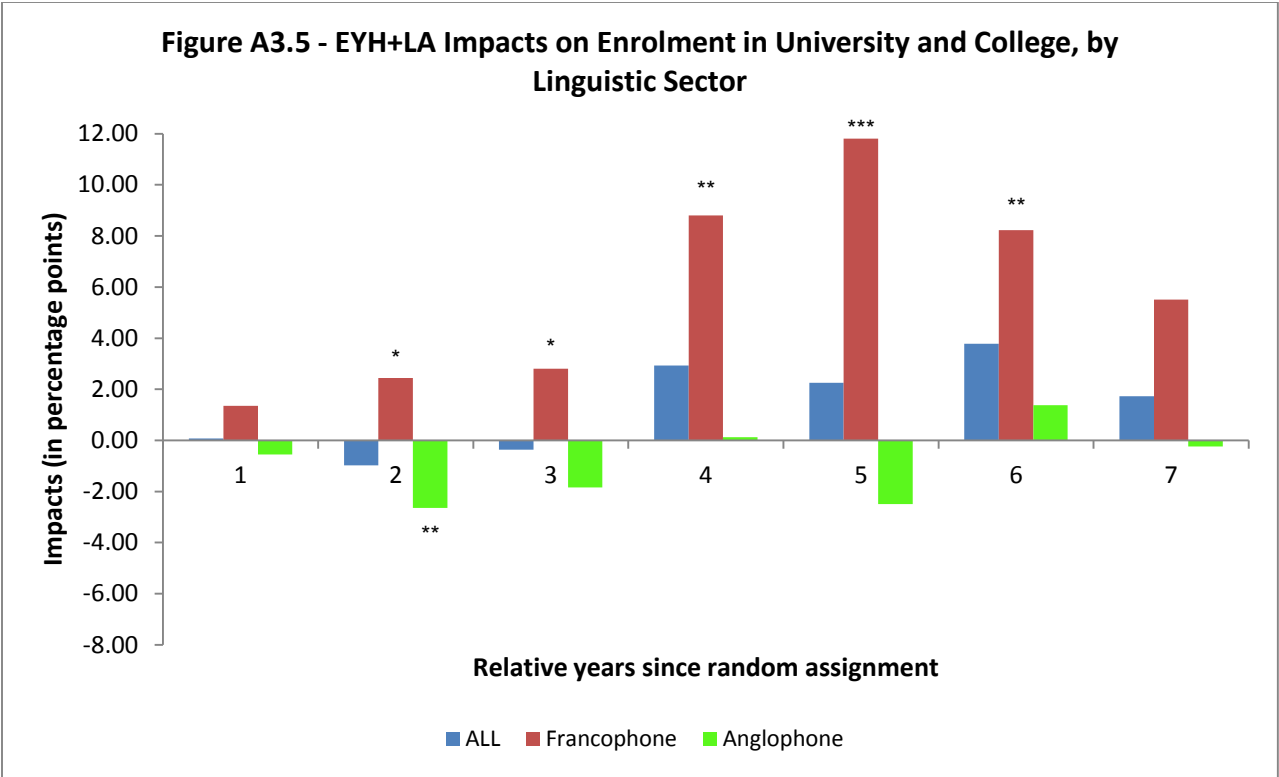


Appendix 3: Impacts of offering *Explore Your Horizons* and *Learning Accounts* (graphs)

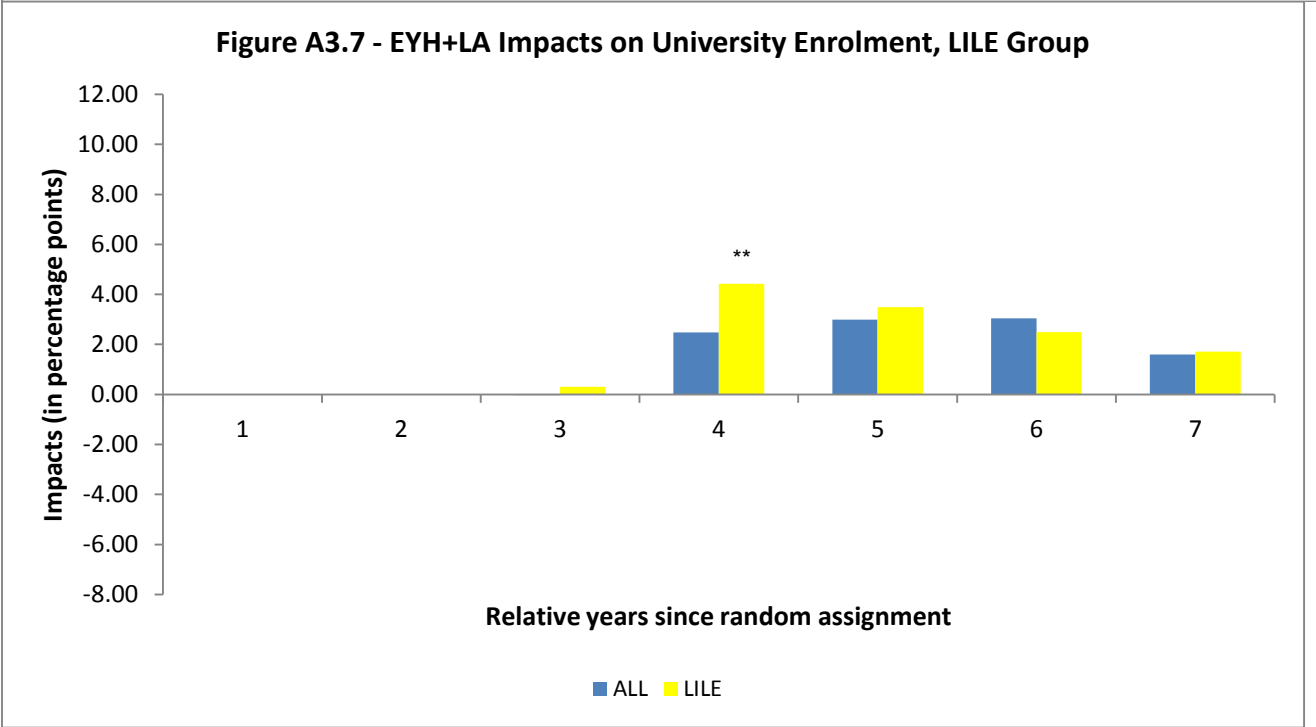
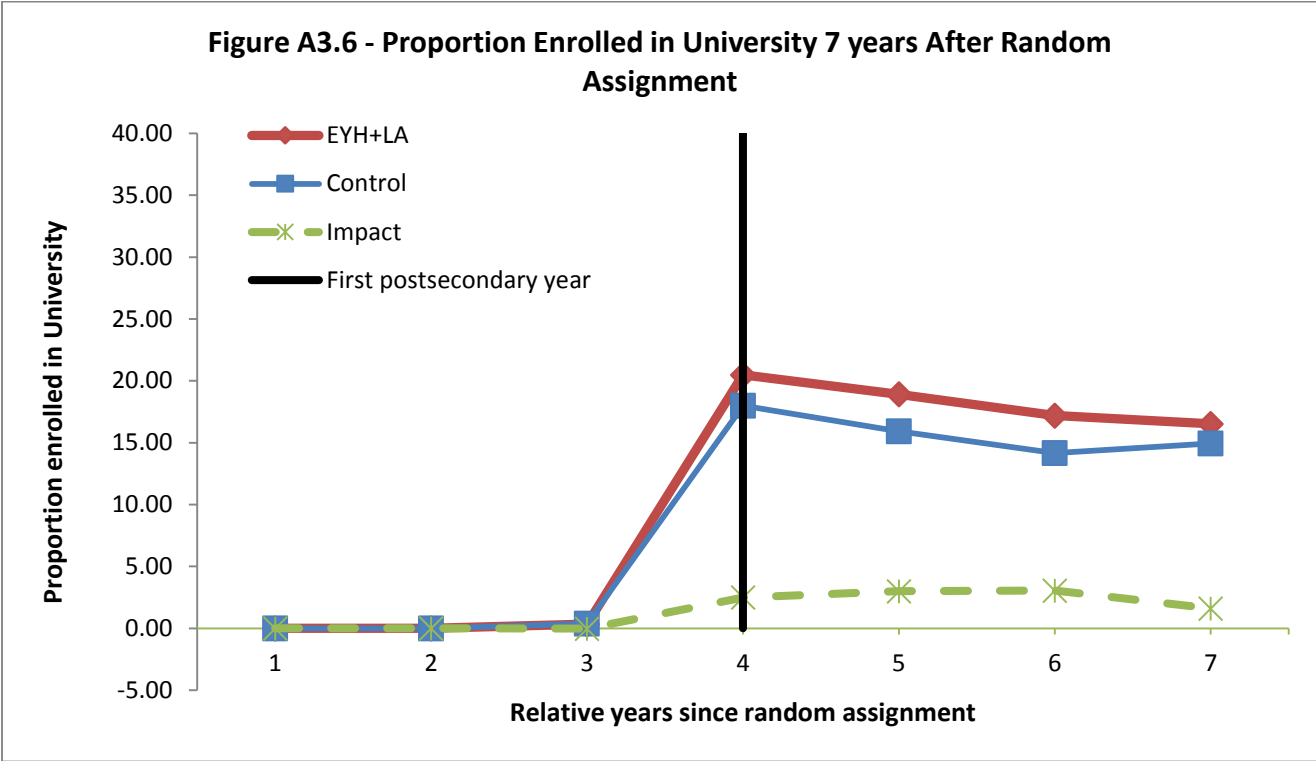
Enrolment in university and college

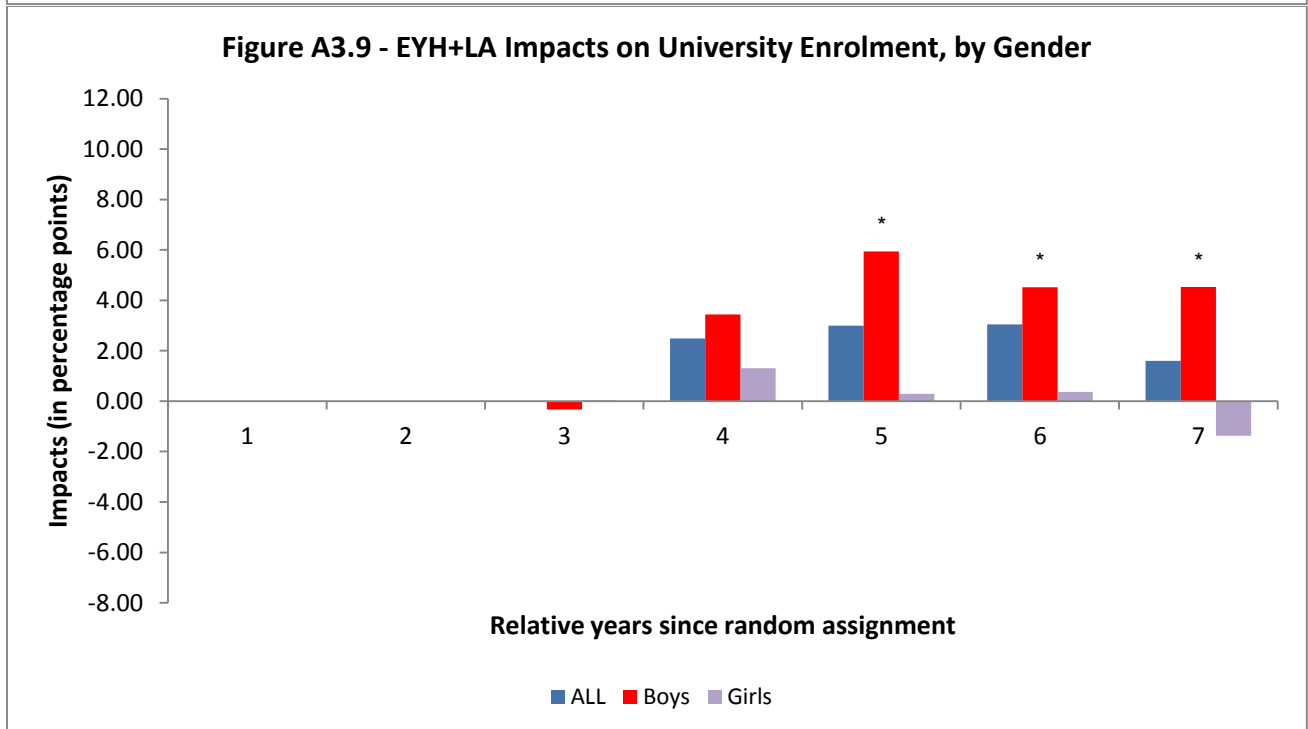
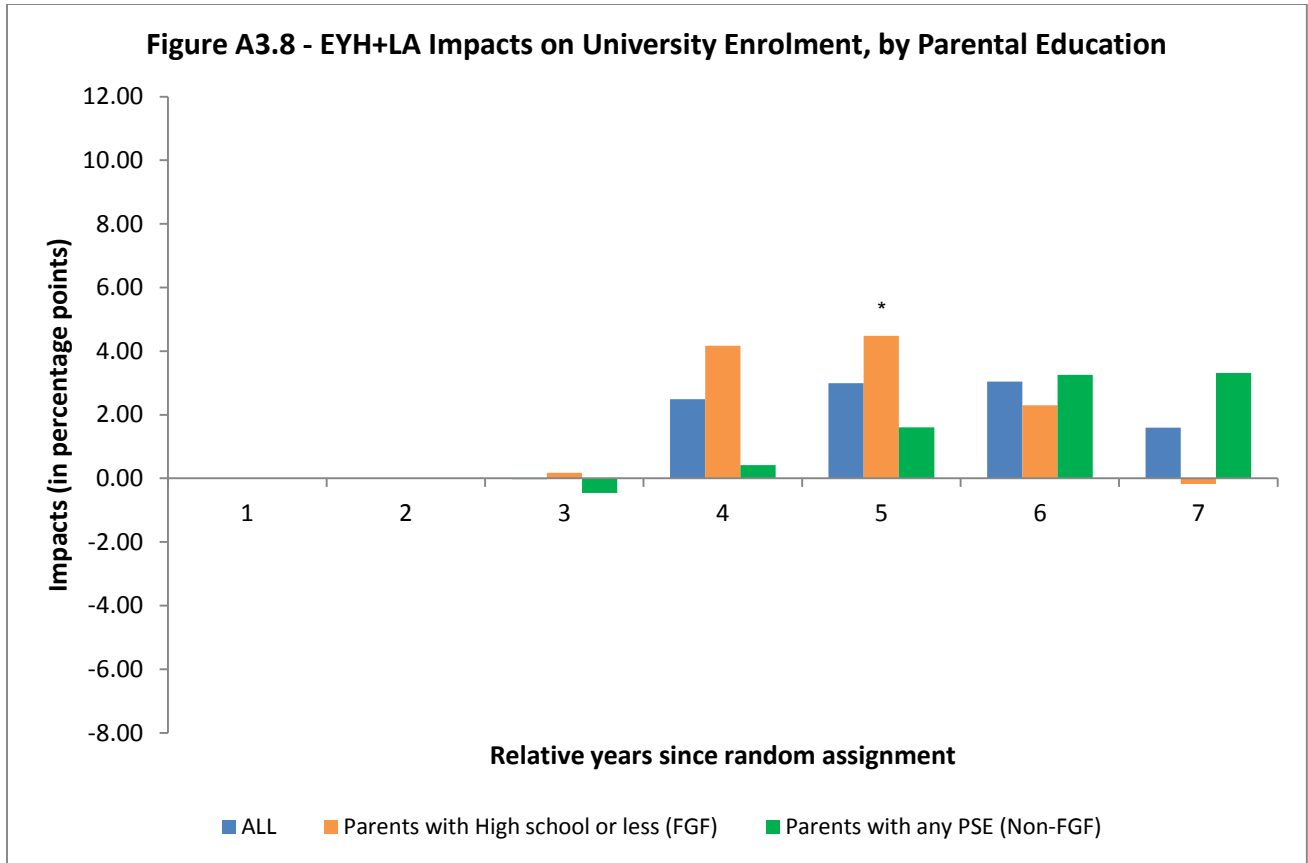


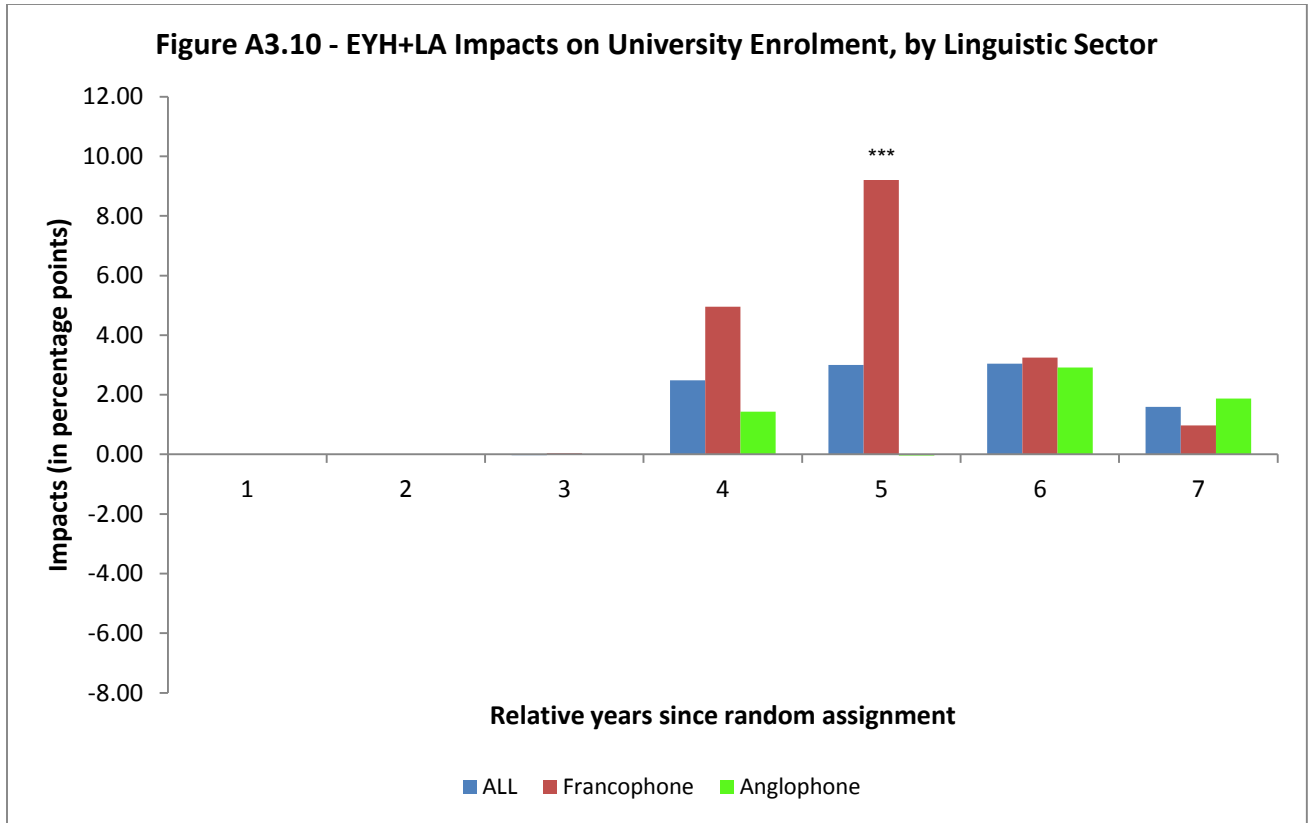




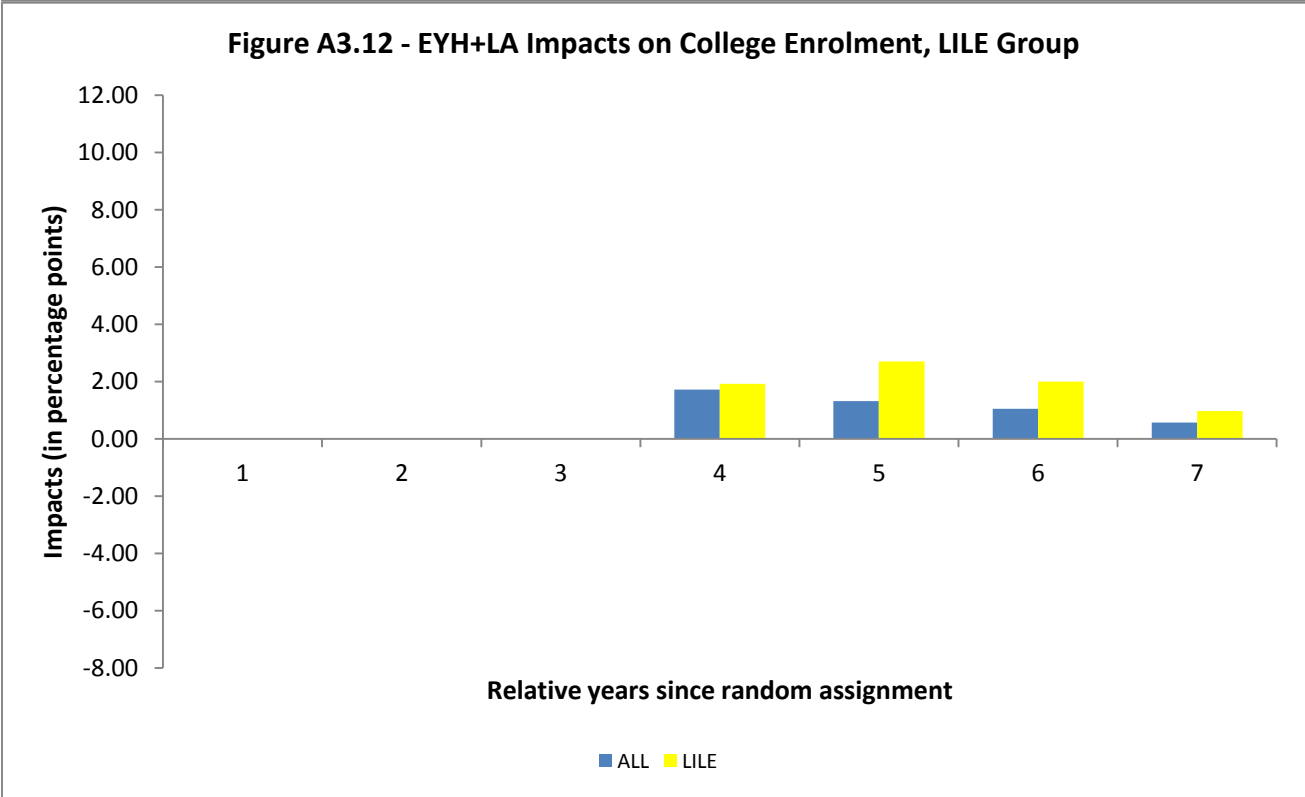
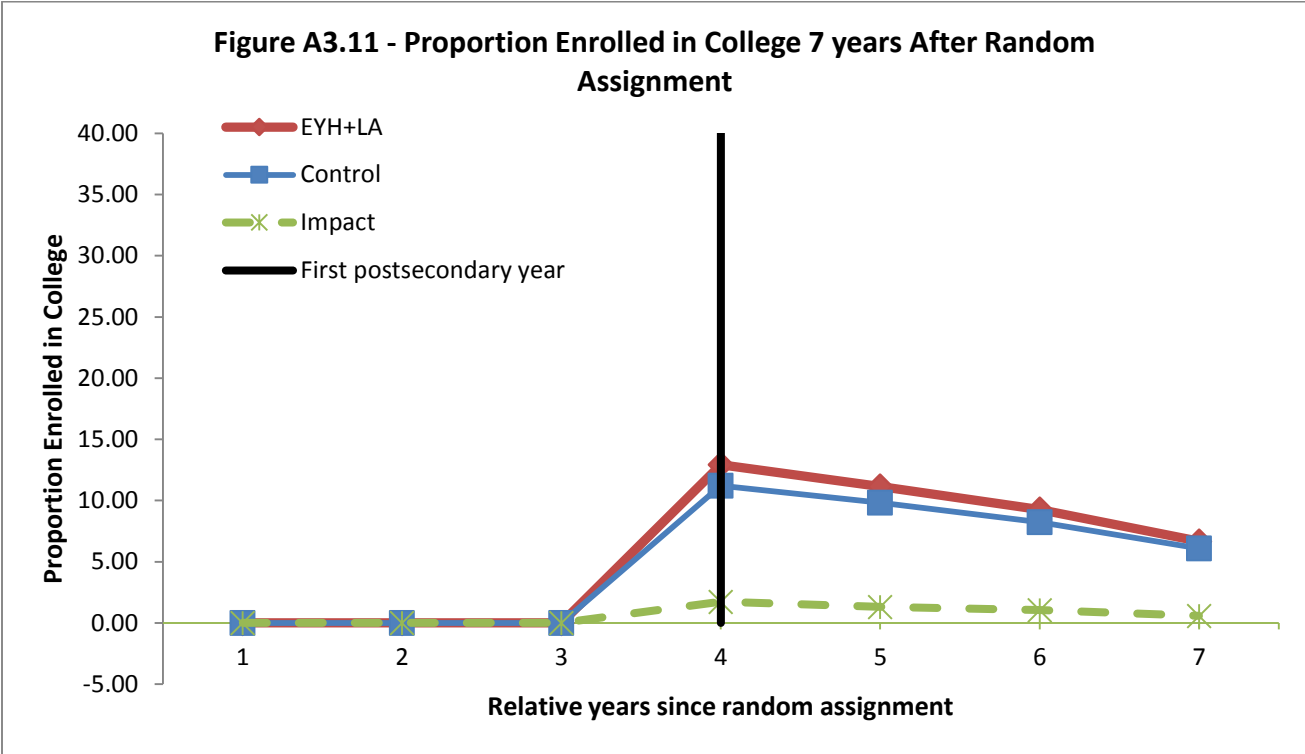
Enrolment in university

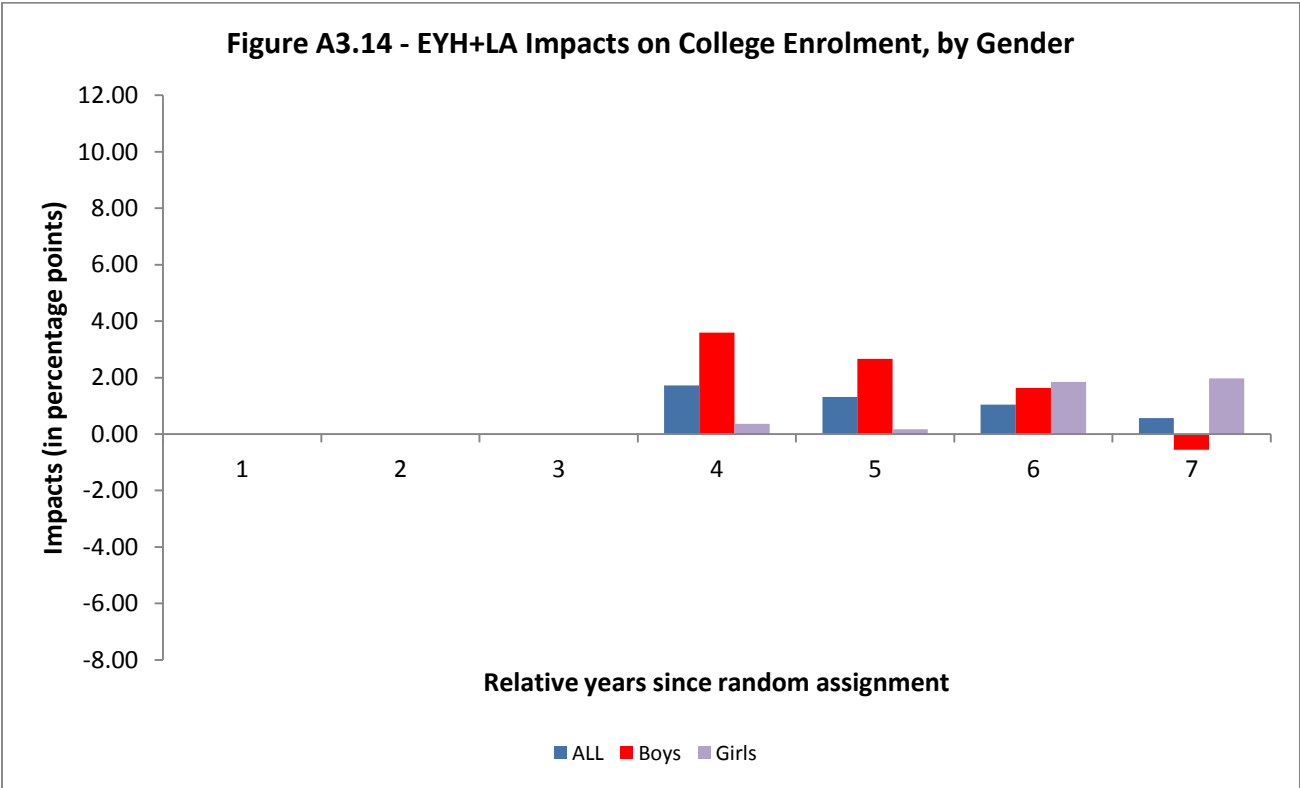
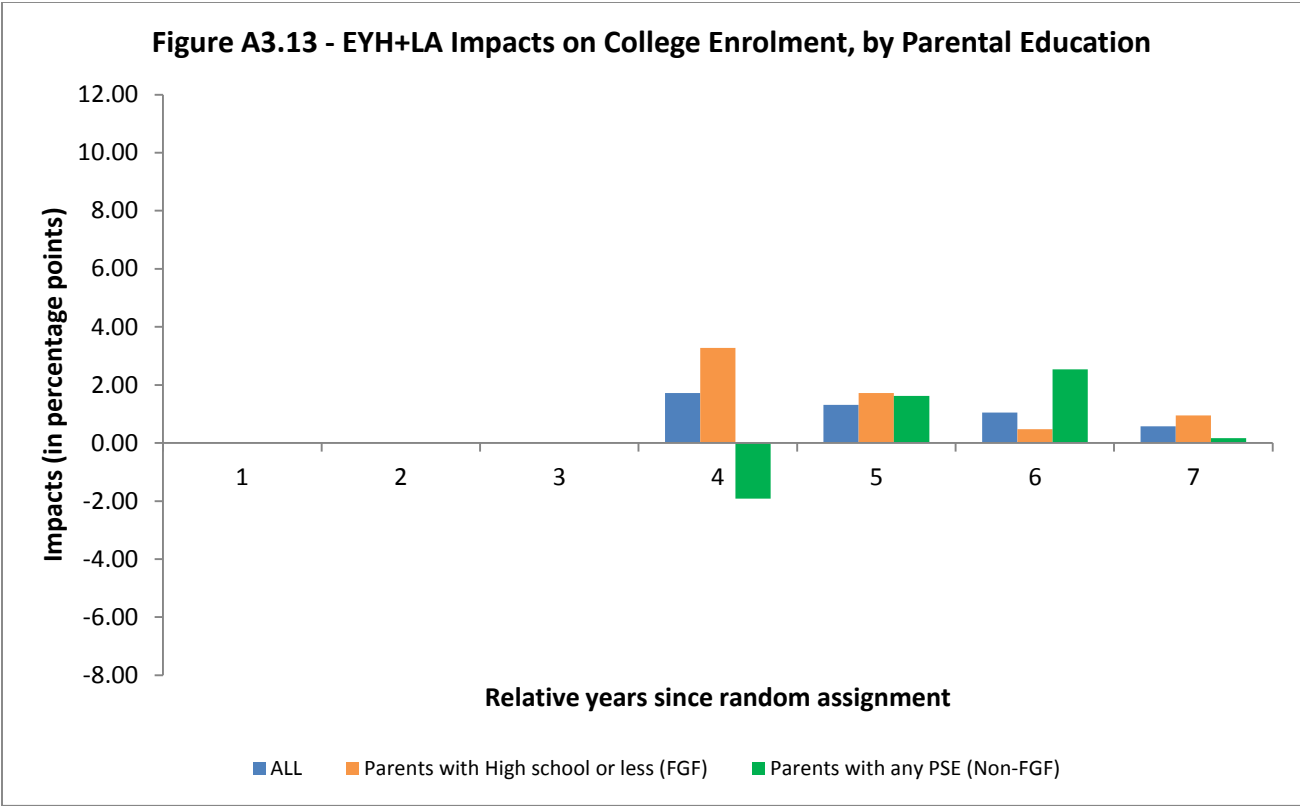


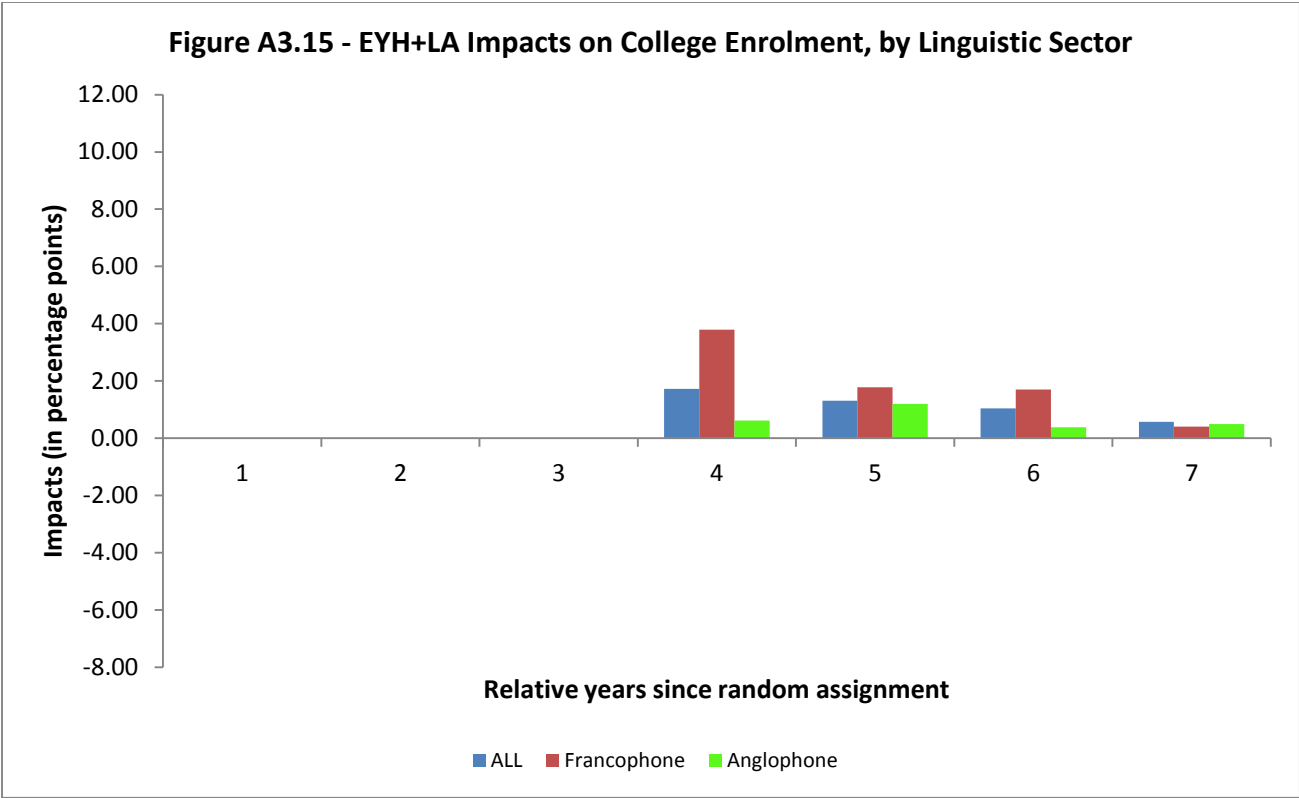




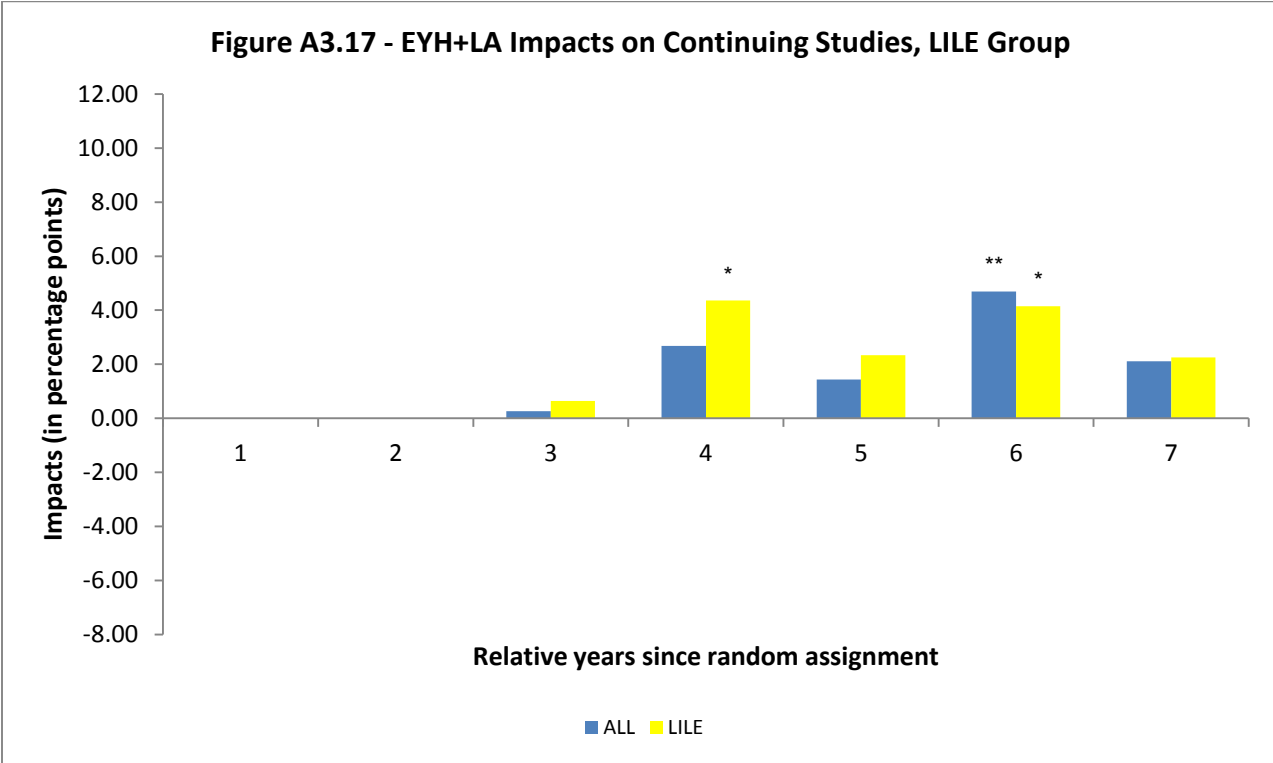
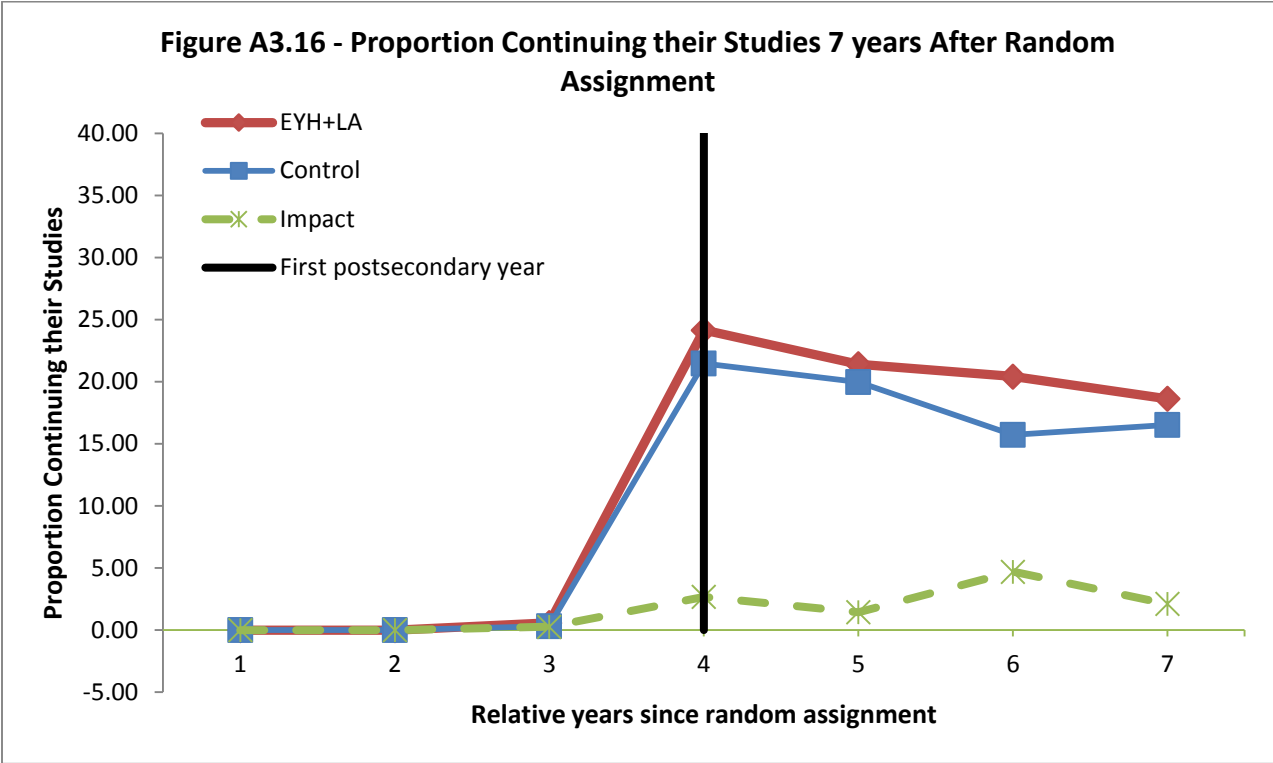
Enrolment in college

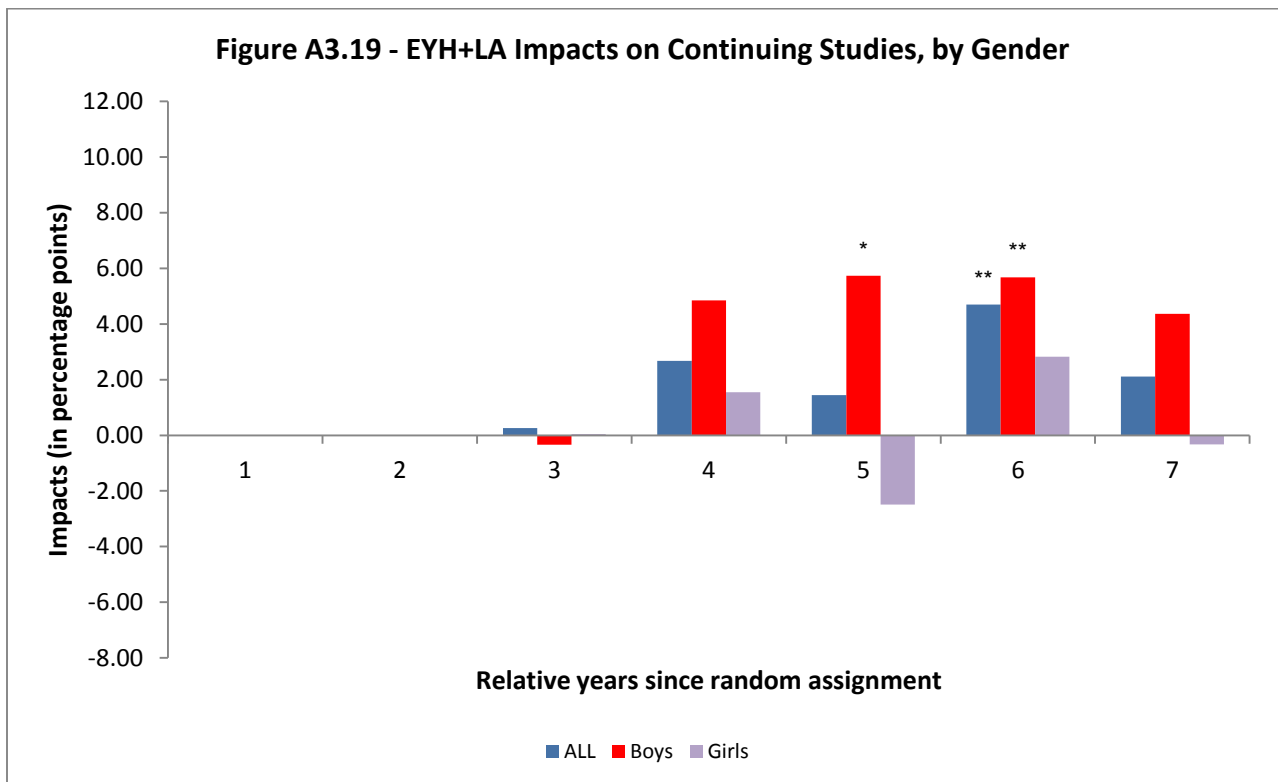
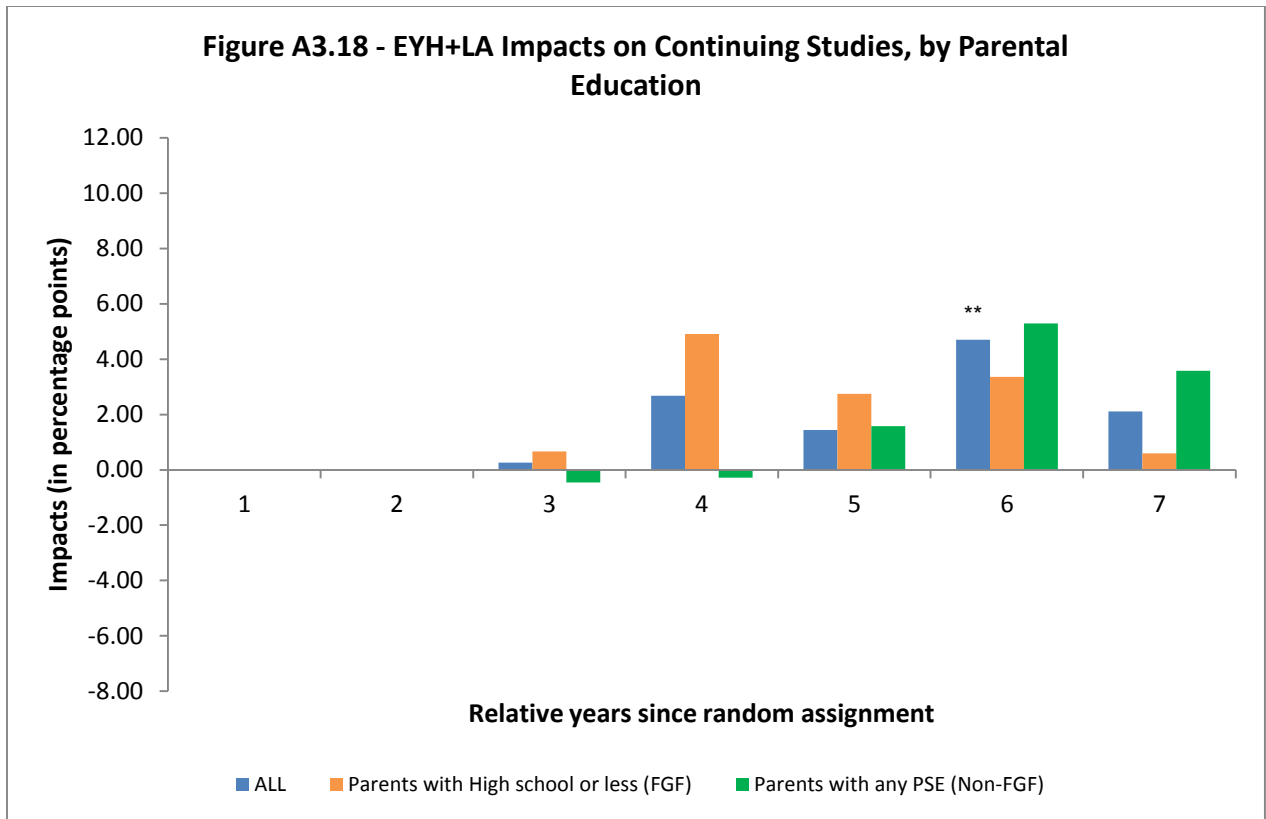


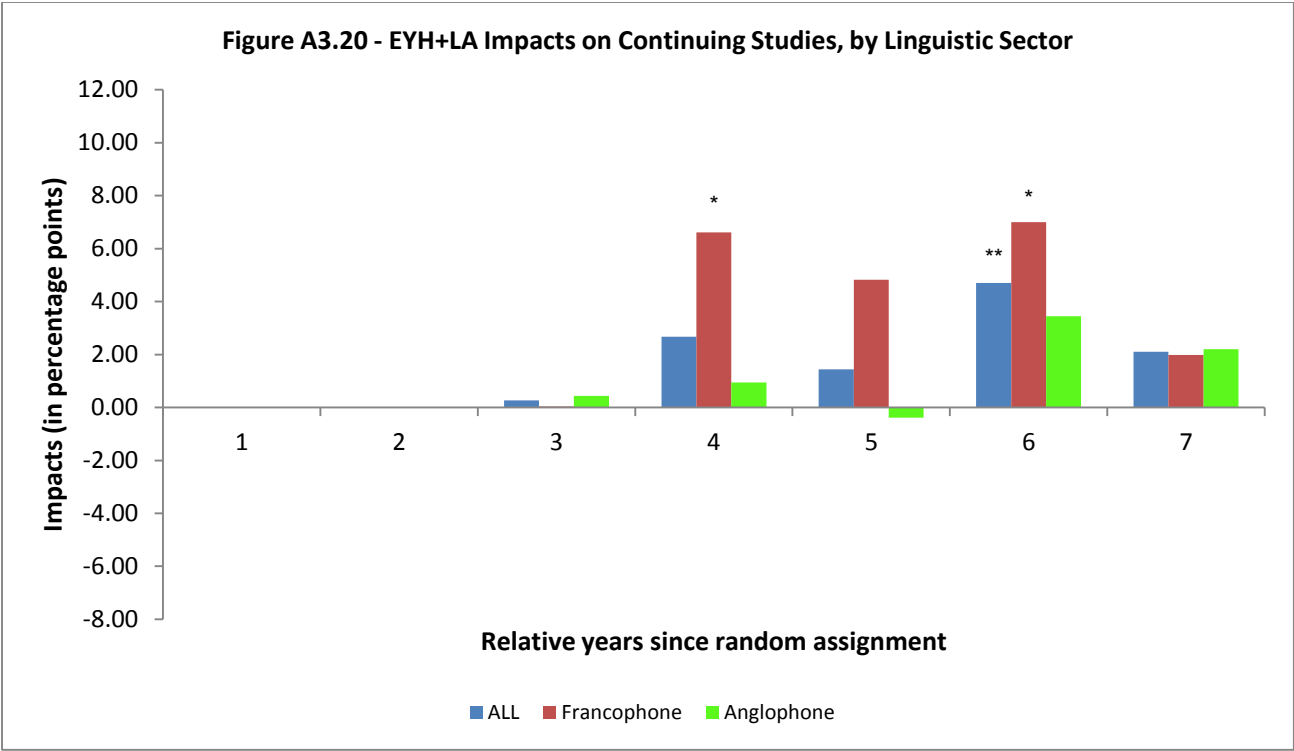




Continuing studies







Switching institutions

