Gap year takers: uptake, trends and long term outcomes

Claire Crawford and Jonathan Cribb

Institute for Fiscal Studies through the Centre for Analysis of Youth Transitions (CAYT)

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Executive Summary

This report provides the first quantitative evidence on the characteristics and outcomes of gap year takers in the UK. It does so by using two rich survey datasets: the Longitudinal Study of Young People in England (LSYPE), which follows a cohort of young people as they make decisions about whether or not to enter higher education (HE) and whether or not to take a gap year at the height of the recent recession, and the British Cohort Study (BCS), which follows the population of individuals born in Great Britain in a particular week of April 1970, who were first eligible to enter HE in September 1988. These two datasets together enable an assessment of the intentions, activities and characteristics of a recent cohort of gap year takers and the long-term consequences of the decision to delay entry into HE for a range of outcomes, with a particular focus on wages and earnings.

The analysis of the recent LSYPE cohort focuses on individuals who are on a gap year according to the "official" Department for Education definition. LSYPE cohort members are asked, at the end of the first academic year following Year 13, if they have: a) applied to university, b) received offers and c) accepted an offer. If they answer "yes" to all three questions, they are asked "Are you on a gap year between getting exam results and going to university?". If they answer "yes" to this question, then they are classified as being on a gap year. In contrast to the definition of gap year takers in the BCS – which relies on identifying breaks in full-time education – individuals who are classified as gap year takers in the LSYPE do not all end up going to university. This is an important distinction between the two studies.

In fact, analysis of the LSYPE cohort shows that there are many different routes into a gap year: over two fifths of gap year takers do not apply to university before sitting their A-levels, and 28% of gap year takers do not express an intention to take a gap year when asked about it in Year 13, suggesting that it is an unexpected decision for these individuals, perhaps in response to poorer than expected exam results. There is also substantial heterogeneity in the activities that are undertaken during a gap year, although most gap year takers tend to use their time productively, with over 80% reporting working in Britain at some point during their gap year. Other common activities include travelling and working abroad, especially among young people who expressed an intention to take a gap year. These statistics mean that it is relatively unsurprising that only 3.7% of gap year takers are classified as NEET in the LSYPE, of which most are unemployed. Interestingly, the stated reasons for wanting to take a gap year primarily involve gaining independence and taking a break from education, rather than saving money to go to university.

In terms of their characteristics, relative to those who go straight to university, gap year takers in the LSYPE are, on average, more likely to come from higher socio-economic backgrounds and better performing schools, but they also tend to have lower ability beliefs, a more external locus of control (meaning that they are less likely to think that

their actions make a difference) and are more likely to engage in risky behaviours such as smoking cannabis. Interestingly, there are no differences between gap year takers and those who go straight to university in terms of their overall prior attainment, although there is some evidence that those who go straight to university are more likely to have studied STEM subjects (science, technology, engineering and maths) at AS- and A-level.

In general, the analysis of the LSYPE cohort suggests that there are at least two distinct groups of gap year takers: one plans to take a gap year, applies to and accepts a place at university before they leave school, is more likely to go travelling, has higher ability and comes from a more affluent socio-economic background, and is much more likely to take up their place at university on their return; the other is less likely to have planned to take a gap year, typically hasn't applied for and accepted a place before they leave school, is more likely to have worked and/or continued in full-time education during their "gap year" and tends to come from a lower socio-economic background (although still significantly higher than the average socio-economic background of non-students). These individuals are far less likely to go on to university at the end of their "gap year".

In contrast to the results for the younger LSYPE cohort, gap year takers from the older BCS cohort tend to come from poorer socio-economic backgrounds and have lower educational attainment, on average, than individuals who go straight into higher education. While these results are based on snapshots of two cohorts, this evidence supports a tentative conclusion that the composition of gap year takers may be becoming relatively more affluent over time, perhaps as the decision to take a gap year becomes a more deliberate choice to take time away from education. As was the case for the LSYPE cohort, however, gap year takers in the BCS are more likely to engage in a range of risky behaviours and to have a more external locus of control than those who go straight into higher education, which is an interesting finding.

From a policy perspective it is also interesting to understand what impact taking a gap year may have on these individuals later in life. By age 30, gap year takers tend to earn less than those who go straight into HE, with significantly lower hourly wages and weekly earnings. (These effects are smaller, but still persist, at ages 34 and 38.)

What might be driving these differences? In line with the findings of Birch & Miller (2007), gap year takers in the BCS are found to be more likely to graduate with a first or second class degree compared to those who go straight into HE, particularly once account is taken of their lower prior attainment. If degree class is rewarded in the labour market, then, on the basis of these results, one might expect gap year takers to earn significantly more than those who go straight into higher education, not less. It should be noted, however, that the estimates of the effect of gap year status on degree class are not significantly different from zero.

Taking a gap year will, by definition, increase the amount of time individuals may spend in the labour market prior to graduation at the expense of time in the labour market

after graduation. To the extent that the timing of experience matters, this may well provide an explanation for the differences in wages that are observed. In fact, for the BCS cohort, there is evidence of a strong positive return to a year of experience after graduation, but no return to experience gained prior to graduation. This suggests that gap year takers have significantly lower wages than those who go straight into HE simply because they have fewer years after graduation during which they can reap the returns to their investment in human capital. In fact, these effects on the extent and timing of potential labour market experience are found to be one of the key drivers of the differences between gap year takers and those who go straight to HE in terms of wages and earnings during their 30s.
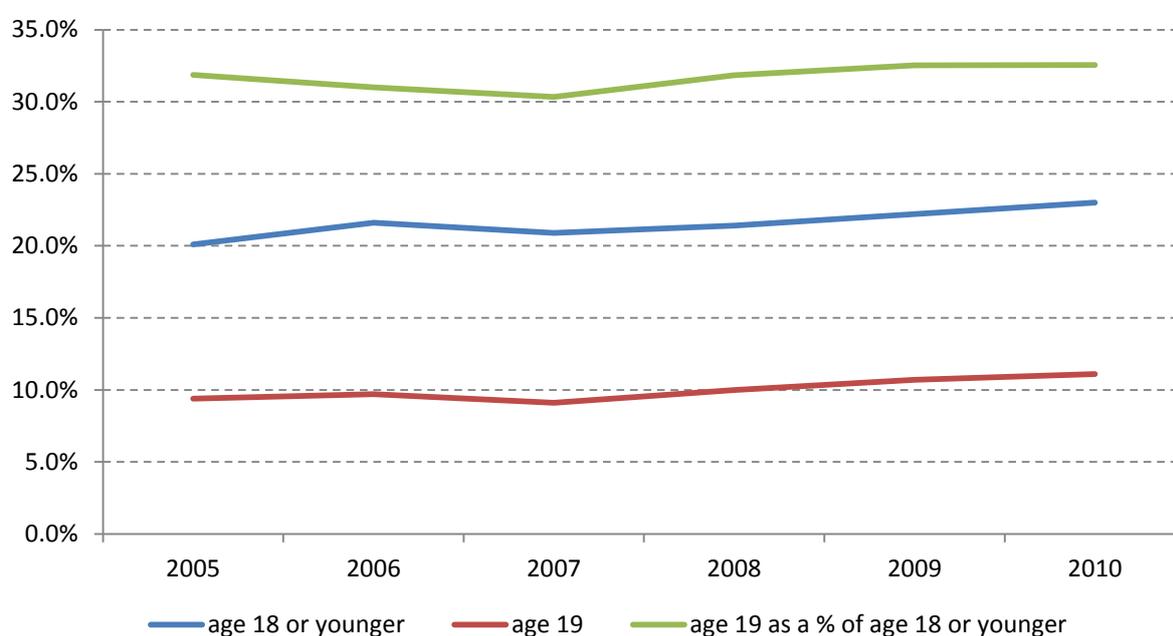
While not all gap year takers in the LSYPE go on to university, and the decision to take a gap year in the BCS appears to have negative consequences for a range of outcomes observed later in life, this report does not conclude that individuals should necessarily be discouraged from taking a gap year. In fact, the LSYPE results suggest that gap year takers who applied to and accepted a place at university before leaving school are at least as likely to go on to HE as those who applied and accepted a place with the intention of going straight there. It is gap year takers who do not apply to university until after they leave school who are less likely to go on. This may signal that their commitment to higher education was lower in the first place; they also have significantly lower prior attainment than gap year takers who applied to university before leaving school, perhaps suggesting that they do not ultimately meet their university grade offers. In either case, it might be more effective to encourage gap year takers to apply to university earlier than to try to prevent them from taking a gap year altogether, although it must be reiterated that these results are not causal.

In terms of the BCS results, it must be remembered that there are significant differences in terms of both the definition of a gap year and the characteristics of individuals who take a gap year in the LSYPE compared to the BCS, thus raising some questions over the relevance of the conclusions regarding negative longer-term consequences for current cohorts of gap year takers. Moreover, even if these findings were applicable to more recent cohorts, the decision to take time away from education may be beneficial for those who choose to do so in terms of their short- or longer-term wellbeing instead.

1   Introduction

Both the number and proportion of young people going into higher education has risen rapidly over the last few years, from 29.5% in 2005 to 34.1% in 2010.[1] As the number of students has increased, so too has the number of students taking a "gap year" (which is often thought of as a year-long break in full-time education between sitting A-levels and starting university, often devoted to travel or work) (although the proportion of young entrants taking a gap year has not changed very much over this period). For example, Figure 1 shows that the proportion of young people entering higher education at age 19 (a year after they are first eligible) has risen from 9 per cent to 11 per cent between 2005 and 2010 (the latest year for which figures are available).

Figure 1   Percentage of young people entering higher education by age

Source: Higher Education Initial Participation Rate (2004-05 to 2009-10) from the Department for Education and Department for Business, Innovation and Skills.

Heath (2007) also documented a substantial increase in the number of students delaying entry to university in the UK during the 1990s, although figures on the deferral of accepted places from the University and College Admissions System (UCAS) suggest, if anything, a small decrease in the proportion of places deferred between 2003 and 2011.[2]

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[1] Figures refer to the official Higher Education Initial Participation Rate for people entering higher education by age 19. Source: Department for Business, Innovation and Skills.

[2] Source: http://www.ucas.com/about_us/stat_services/stats_online/data_tables/deferring. A longer time series showing the change in participation at age 18 and age 19 using data from the UK Labour Force Survey (LFS) was also attempted; however, it was not possible to reconcile the proportions published by

However, despite increasing numbers, high media exposure and the development of a "gap year industry", there is very little evidence on the characteristics of gap year takers, their motivations for taking a gap year and what they do whilst they are out of education and, perhaps most importantly, what effect this decision has on their longer-term outcomes.

This report aims to fill these gaps, by providing the first quantitative evidence on gap year takers in the UK. It uses data from a recent cohort of young people – from the Longitudinal Study of Young People in England – who were first able to enter higher education in 2008-09 to provide a comprehensive picture of the characteristics of gap year takers (relative to those who go straight to university), their reasons for taking a gap year and what they do on their gap year. This is supplemented by examination of an older cohort – the British Cohort Study, who were first able to enter higher education in 1988 – in order to consider the longer-term implications of taking a gap year (relative to going straight into higher education) for a range of labour market and other outcomes.

An obvious question to start with is what is the impact of taking a gap year rather than going straight on to higher education (HE)? Given that investment in HE tends to lead to large and positive returns in the labour market, one argument against taking a gap year might be that it shortens the period over which these returns can be reaped. On the other hand, gap years might be thought of as productive periods, during which young people acquire skills or experience that are also rewarded in the labour market, or during which they improve the match between their skills and abilities and the university and/or course that they have chosen.

Holmlund, Liu & Skans (2008) and Jones (2003) provide similar frameworks within which to consider the potential consequences of the different choices made by gap year takers. Holmlund et al (2008) have in mind four different types of gap years which are relevant in the UK: 1) gaps as investments in skills; 2) gaps as waiting for better educational opportunities; 3) gaps as learning about ones preferences and/or ability; 4) gaps as leisure. (They also consider military service as a fifth reason for taking a gap year – their study is based in Sweden – but that is clearly not relevant in the UK.)

The first type of gap year may represent an investment in non-academic skills, such as gaining experience of a work environment, greater independence, or the development of inter-personal, communication or language skills (Nieman, 2010). Such skills may increase the potential productivity of the gap year taker as both a student and a potential future worker. By contrast, the second and third types of gap year can be thought of as either voluntary or involuntary opportunities for the individual to learn more about their own skills and preferences and hence allow them to make better educational choices in terms of the university they go to or the degree subject they

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the government with the proportions implied by any potential measure available in the LFS. This analysis was thus not pursued any further.

study. This may improve both their higher education experience and the returns that they later reap from their educational investment in the labour market.

On the other hand, if not used productively, a gap year may represent a time during which academic skills depreciate, which may be detrimental for future productivity, especially if it leads to poorer performance at university. Moreover, if a gap year is considered to be a signal of a higher preference for leisure and thus of potentially lower productivity, it might reduce an individual's future labour market opportunities. For an individual to choose a gap year primarily as a means of obtaining leisure would typically require the individual to have a high degree of "impatience", although it is also possible that some types of leisure – such as the desire to travel long distances for an extended period of time – are age dependent (Holmlund et al, 2008).

This suggests that the long-term consequences of taking a gap year are theoretically ambiguous and, moreover, that the effects are likely to vary according to the activities that the young person decides to undertake during their gap year. This choice of activity will also matter from a more immediate policy perspective in terms of whether young people on gap years are classified as NEET (not in education, employment or training). Reducing the proportion of young people who are NEET is a key goal for the government[3] and if a sizeable proportion of individuals who are classified as NEET are actually on a gap year doing something productive, such as volunteering in the UK or abroad – but not in education, training or work – then it may be that some individuals who are classified as being NEET are not in need of direct intervention by the government to improve their long-term outcomes. A further aim of this report will be to assess the extent to which gap year takers comprise a substantial fraction of the NEET population.

Previous research

This report is not the first to have considered the determinants and consequences of gap year choices; some previous studies have considered these issues from a qualitative perspective in the UK (e.g. Jones (2003) and Heath (2005)), while others have undertaken quantitative analysis in other countries (e.g. Holmlund et al (2008) for Sweden and Birch & Miller (2007) for Australia).

Jones (2003) was commissioned by the former Department for Education and Skills to provide an overview of what was known about gap year takers in the UK. He regarded a gap year as "any period of time between 3 and 24 months that an individual takes out of education, training or the workplace" and tried to estimate the number of gap year takers on the basis of the number of places provided by specialist companies. He found 85 companies providing a total of 50,000 placements per year, with some organisations estimating that there are up to 250,000 gap year takers each year. This figure includes

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[3] See, for example, http://www.education.gov.uk/inthenews/inthenews/a0074851/government-response-to-the-latest-neets-figures.

post-university gap years and career breaks, however, so is likely to over-estimate the number of young people taking a year off between further and higher education.

In terms of characteristics, he finds that gap year takers tend to come from more affluent backgrounds, are generally white and from the south (east) of England, and are quite likely to have been educated at an independent or grammar school. However, his study is based mainly on interviews with gap year providers – who typically arrange work, travel or volunteering opportunities abroad – and therefore may only capture one "type" of gap year taker. These results are thus not particularly comparable to the findings of the remaining studies, which consider the full range of gap year takers.

Birch & Miller (2007) focus on students who deferred entry to the University of Western Australia (UWA) by one year and entered UWA between 2002 and 2004. Using information from student records, they find that having English as a first language, being younger (in years) at the end of high school and having weaker grades increase the likelihood of deferring entry. Interestingly, however, they also find that gap year students tend to perform better in first year university exams than observationally similar students who did not take a gap year. Of course, the fact that they are using administrative data means that they only have access to a relatively limited set of background characteristics – basic demographic and family background information, plus academic records – so gap year students may differ from non gap year students in many ways that are not observable to the researchers. This problem may be worsened by the fact that they are comparing students who were admitted to a highly selective university. Thus, while gap year students tend to have lower entry grades than those who go to university straight from high school, they are still admitted to the university, perhaps indicating that they have been selected on positive unobservable characteristics. With this in mind, it may therefore not be altogether surprising that gap year takers end up with higher exam results when controlling for observable factors.

While not the main focus of their study, Belley & Lochner (2007) also investigate the relationship between family income, ability and delayed entry to college. Using data from the US National Longitudinal Studies of Youth from 1979 and 1997, they find – in common with Birch & Miller (2007) – that ability is negatively related to the likelihood of delaying entry to college – i.e. students of lower ability are more likely to take one or more gap years – but that this relationship has weakened over time. By contrast, they find little significant evidence of a relationship between family income and the likelihood of delaying college entry for either cohort. On the other hand, Kane (1996) examines the incidence of college delay in America, and finds that there is evidence of black and poor white students delaying entry to college due to high tuition costs. He concludes that this is evidence that students delay entry to college due to borrowing constraints.

Finally, Holmund et al (2008) use Swedish administrative data on graduates born between 1958 and 1972 who took a break from education of one or more years

between leaving high school and starting university. In common with Birch & Miller (2007) and Belley & Lochner (2007), they find that students with poorer academic records are more likely to take a break from education. Like Belley & Lochner (2007), they do not find evidence of a systematic relationship between socio-economic background (here measured by parental education) and the likelihood of taking a gap year or years, although the results from other papers are mixed, with Kane (1996) finding that poor white students are more likely to delay entry to university, while Jones (2003) finds that (a subset of) gap year takers are more likely to come from high socio-economic backgrounds. The findings on ethnic origin are also mixed, with Kane (1996) finding that black students are more likely to defer entry, but Birch & Miller (2007) finding that those with English as a second language are less likely to delay entry and Holmlund et al (2008) finding that immigrants from non-Nordic countries are less likely to take a break from education. Holmlund et al (2008) also find that women are less likely to take a break from education.

Holmlund et al (2008) also examine the effect of taking one or more years break from education on wages and lifetime earnings. They find that, for every year away from education, annual earnings are reduced by just under 3 per cent at age 30 and just over 2 per cent at age 35. These effects hold for individuals who study the same subject and whose course is the same length, meaning that the only difference between them should be the timing of their potential work experience. This is an important issue to which this report returns later. In fact, the authors calculate that a two-year break is associated with a reduction in lifetime earnings equivalent to around 40-50 per cent of annual earnings at age 40.

In common with Birch & Miller (2007), however, Holmlund et al (2008) use administrative data to estimate their model. While this provides them with substantial sample sizes and detailed information on course subject and length, only a few background characteristics are available, which they must rely upon to capture all the important ways in which those who take a break from education differ from those who do not. It remains an open question as to whether these datasets permit them to achieve their aims in this respect.

This report builds on the existing literature in two clear ways:

- It provides the first quantitative evidence on the characteristics and outcomes of gap year takers in the UK, and does so using rich survey data.[4] The use of rich survey data is important for two reasons: first, it enables a more detailed investigation than has hitherto been possible of the characteristics of gap year takers relative to those who go straight to university, including detailed information on family background including socio-economic status, as well as attitudes to education and work, and engagement in risky behaviours. Second, when considering the effect of taking a

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[4] Belley & Lochner (2007) also use rich survey data, but gap year taking is not the focus of their study; nor do they consider the potential consequences of the decision to delay entry to college for later outcomes.

break from education on later outcomes, it provides a more detailed set of controls than has been available in previous studies, hence the resulting estimates should get closer to identifying the "causal" effect of taking a gap year on later life outcomes.

- It is able to consider a wider range of potential outcomes – including family formation and engagement in risky behaviours – than other studies in this field, although the effects on labour market outcomes remain the primary focus.

Structure of the report

This report now proceeds as follows: Section 2 describes the datasets that are used and the definitions of "treatment" and "control" groups – gap year takers and those who go straight on to higher education respectively – that these datasets allow, while Section 3 briefly describes the methodology that is used. Section 4 presents analysis based on the Longitudinal Study of Young People in England, describing gap year intentions amongst a recent cohort of young people, as well as their reasons for wanting to take a gap year, what they do during this period and their characteristics relative to those who go straight to university. Section 5 presents analysis from the older British Cohort Study. It starts by comparing the characteristics of gap year takers relative to those who go straight into higher education with those of the younger LSYPE cohort, before investigating the effect of taking a break from education on a range of later outcomes, including degree class, employment status, wages and earnings. Section 6 concludes.

2   Data

Longitudinal Study of Young People in England

The Longitudinal Study of Young People in England (LSYPE) is funded and maintained by the Department for Education and tracks a single cohort of just under 16,000 young people from age 13/14 (henceforth age 14) through to age 19/20 (henceforth age 20). It follows young people who were in Year 9 in 2003-04 (i.e. who were born between 1 September 1989 and 31 August 1990), interviewing them in the summer of each year until 2009-10, when they could potentially be in their second year of higher education.

One of the main aims of the LSYPE was to better understand the transitions of young people from compulsory schooling into further and higher education (HE) and the labour market. As such, the LSYPE collected detailed information on this aspect of young people's lives, including their intentions to take a gap year, their reasons for doing so and what they do whilst they are away from full-time education. Data from the LSYPE can thus be used to provide a comprehensive picture of the characteristics, aims and activities of gap year takers (relative to those who go straight to university). Table 1 highlights the years of interest for this cohort.

For those who stayed on beyond age 16, Wave 5 (2007-08) would have interviewed them during their second year of further education when they were likely to be making key decisions about whether or not to stay on for higher education. For those who decided to do so, Wave 6 (2008-09) would thus represent either their first year in HE (for those who decided to go straight there) or their gap year (if they decided to take a year off before going into HE), with Wave 7 (2009-10) then either their first or second year of higher education respectively. Waves 5, 6 and 7 – spanning the recent recession in the UK – thus represent the key period for the LSYPE cohort in terms of observing their HE intentions, applications and participation.

Table 1: Using the LSYPE to examine gap years

Academic Year		2007-08	2008-09	2009-10
Age		18	19	20
Wave of LSYPE		5	6	7
No. of observations		10,430	9,799	8,682
If student takes :	a gap year	Last year of school	Gap Year	First Year at University
	no gap year	Last year of school	First Year at University	Second Year at University

Waves 1 to 4 (ages 14 to 17) provide a rich set of background characteristics, including data on individual and family demographics, socio-economic background, attitudes and aspirations of both the cohort members and their parents, and the young person's engagement in risky and anti-social behaviours. The LSYPE can also be linked to detailed information on academic achievement from the National Pupil Database (NPD),

which combines national test results at the end of each curriculum period (Key Stage) with (limited) pupil and school characteristics. National achievement test scores are available at ages 11 and 14 for all cohort members in state schools; GCSE and equivalent exam results taken at the end of compulsory schooling (age 16) are available for all cohort members; AS and A-level and equivalent exam results (ages 17 and 18) are available for all cohort members who sat them and were still in the LSYPE in Wave 7. This information enables a rich comparison to be made between the characteristics of gap year takers and those who go straight to HE. Full details of the variables that are used in this analysis are available in Appendix A.

It is also worth noting that weights accounting for sample selection and attrition are available in all waves and have been applied to all of the analysis presented in this report, such that it can be thought of as reflecting a nationally representative population of young people in England.

Identifying gap year takers in the LSYPE

The Department for Education has an official definition of a gap year taker based on specific criteria, which were used as the basis for questions asked of LSYPE cohort members in Wave 6 (during the summer of 2009, at the end of the academic year in which they could potentially have either been through their first year of university or be finishing their gap year, ready to start a degree course). Cohort members are asked sequentially if they have a) applied to university, b) received offers and c) accepted an offer. If they answer "yes" to all three of these questions, then they are asked "Are you on a gap year between getting exam results and going to university?". If they answer "yes" to this question, then they are classified as being on a gap year. According to this definition, there were 663 gap year takers compared to 3,306 individuals who went straight to university at age 18. This means that our main analysis sample focuses on the 3,969 individuals who either went to university in Wave 6 or intended to do so the following year. (The remaining 5,830 individuals who were part of LSYPE in Wave 6 did not go to university and did not intend to do so the following year.)

The timing of the LSYPE interviews means that most individuals who would be expecting to start a degree course the following academic year will have already applied for and been offered a place via UCAS. However, if a gap year taker were to have applied to university, but to either not have received any offers or not have accepted one and be hoping to secure a place via 'clearing'[5], then they would not be counted as a gap year taker under this "official" definition.

Other important points to note about this definition are as follows: first, it refers specifically to university, rather than encompassing higher education more broadly. Second, in contrast to much of the previous literature on this topic, it does not preclude the possibility that individuals are still in full-time education while on their "gap year".

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[5] See http://www.ucas.com/students/nextsteps/clearing/facts for details of the clearing process.

Finally, it is worth noting that it is a prospective (or ex-ante) definition and as such does not require individuals to actually go on to university to be included.

To ensure that none of the results presented in this report are unduly influenced by the rather specific nature of this definition, all of the LSYPE analysis has been repeated using an alternative definition of a gap year, namely that individuals were not in full-time education in Wave 6, but are in university in Wave 7.[6] Results using this alternative definition – which are available from the authors on request – do not materially change the conclusions drawn about gap year takers on the basis of this analysis.

It is clear that the LSYPE permits a detailed examination of the characteristics and activities of a very recent sample of young people who were making decisions about whether or not to stay in further and higher education at the height of the recent recession; these results are discussed in detail in Section 4. The fact that the cohort is not followed beyond 2009-10, however, means that it is not possible to consider the longer-term consequences of the decision to take a gap year using individuals from this cohort. It would be possible to do so in future if plans to link LSYPE cohort members to various administrative data sources go ahead. In the meantime, an older cohort is required.

British Cohort Study

The British Cohort Study (BCS) is a longitudinal study following all individuals born in Great Britain in a particular week in April 1970.[7] Information about these individuals was collected at birth and subsequently at ages 5, 10, 16, 26, 30, 34 and 38. This cohort would have been eligible to start university in September 1988, between the age 16 and 26 surveys. Importantly for this report, the age 30 interview included a series of questions about the cohort members' educational experiences, including any HE qualifications they achieved and whether they took any breaks from full time education.[8]

In terms of outcomes, the BCS gathers rich data on labour market experience; as well as snapshots of employment, hours and earnings in each of the adult waves, it collects "employment histories" which detail every job spell from 1986 to 2004. This longitudinal aspect of the data means that it is possible to investigate whether gap year decisions have different impacts at different ages. Information is also collected on relationship status and family formation, as well as self-reported health status and engagement in a range of risky behaviours, which allows this report to consider a wider

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[6] Analysis has also been repeated including all individuals who were in higher education (and not just university) in Wave 7; this makes very little difference to the conclusions drawn from this analysis.

[7] Originally called the British Births Study, the birth survey covered the whole of the UK, but those from Northern Ireland were dropped from subsequent sweeps.

[8] The way in which this information is used to identify gap year takers is described in detail below.

range of outcomes than the more standard measures of labour market success considered in previous literature (although they remain the focus).

The surveys undertaken from birth to 16 provide a wealth of information that can be used as control variables in the model, in an attempt to account for characteristics that might affect both a young person's likelihood of taking a gap year and their later outcomes. Available control measures include demographic and family background characteristics, cognitive tests taken at ages 5 and 10, detailed measures of behaviour, information on parental and child attitudes to education, and the cohort member's engagement in a range of risky behaviours during secondary school. It is not possible to link BCS cohort members to their test scores or exam results from administrative data – as in the LSYPE – which means that information on educational outcomes is self-reported. (The availability of cognitive test scores means that is easier to account for innate ability in the BCS than the LSYPE though.) Full details of both the outcomes and control variables that are used in this analysis can be found in Appendix A.

The BCS offers the opportunity to consider the longer-term outcomes of gap year takers relative to those who go straight onto higher education, something that was not possible to do using the LSYPE. Some caution in interpretation of the results is needed, however, as considering longer-term outcomes necessarily means focusing on an older cohort of individuals who went to university at a time when the HE system looked very different to its current state. For example, around 15% of 18/19 year olds went on to higher education in 1988, compared to around 37% in 2008-09[9], suggesting that the characteristics of individuals who go to university and indeed choose to take a gap year may well differ significantly across the two cohorts. This issue is addressed directly at the start of Section 5.

A further disadvantage is that there has been substantial attrition from the survey by age 30 – with 34.5% of the survey having left by this point – but that, in contrast to the LSYPE, no population weights are available to account for this attrition.[10] Crawford, Goodman & Joyce (2011) and Ketende et al (2010) both provide evidence that, as might be expected, individuals do not drop out of the survey at random. Crawford et al (2011) show that the remaining cohort members tend to come from more advantaged backgrounds than those who have dropped out of the survey, and also tend to be more highly educated (at least on average), while Ketende et al (2010) find that attrition was

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[9] A consistent time series is difficult to obtain; the figure for 1988 refers to the age participation index (API), which relates to the proportion of 18 and 19 year olds in HE, whereas the figure for 2008-09 is based on the Higher Education Initial Participation Rate (HEIPR), which relates to the proportion of 18 and 19 year olds who first started HE at that age (i.e. the age participation index may also reflect differences in drop-out by age, whereas the HEIPR does not). In the context of sharply rising participation over the last 30 years (e.g. Chowdry et al, 2010), however, the difference between these definitions is likely to be relatively unimportant.

[10] Some studies (e.g. Galinda-Rueda & Vignoles, 2005) create their own weights to try to account for this, but there is no agreed method for doing so and such an exercise was outside the scope of this study.

particularly bad for men, those with a younger mother, those with a manual working father and those from London.

With this in mind, one might hope that – while the analysis carried out using this dataset may not necessarily be representative of the cohort of individuals born in Britain in 1970 – attrition might be less of a problem for an analysis focusing on individuals who have acquired a higher education qualification than for studies focusing on the entire population. This remains an open question though.

Identifying gap year takers in the BCS

Gap year takers in the British Cohort Study are identified using information on whether and when cohort members took a break (of up to three years) from full-time education and whether and when they are observed to have achieved an HE qualification.[11] This information is gleaned from the age 30 interview, which asks about the type of qualifications BCS cohort members have obtained and the ages at which they completed these qualifications. It also asks: a) "How old were you when you left full-time continuous education?" and b) "Did you start any other full-time education within three years of finishing your full-time continuous education?".

Gap year takers – the "treatment" group – are identified as those who left full-time education before completing any HE qualifications, but returned to full-time education within three years and subsequently obtained an HE qualification. Individuals who went straight into HE – the "control" group – are defined as those who obtained an HE qualification before leaving full-time education. This definition suggests that there are 357 gap year takers and 1,582 students who went straight into HE. It implies that 14% of the cohort obtained an HE qualification either straight from school or after taking a break of less than three years away from education, with 3.2% of the cohort (23% of students) being gap year takers.[12]
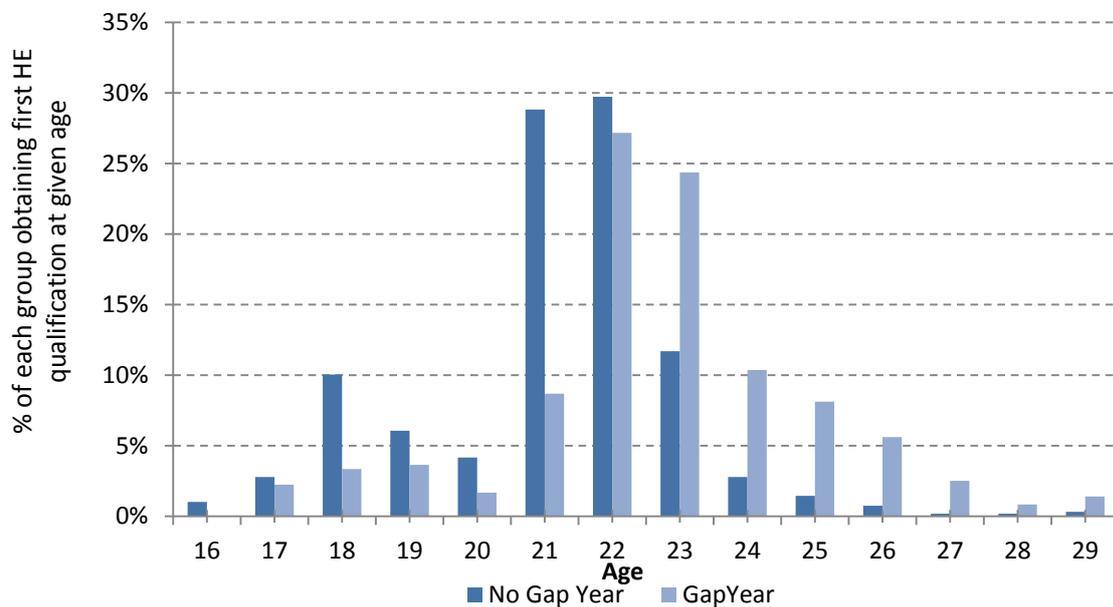
This definition is conceptually similar to the "alternative" definition of a gap year used in the LSYPE and to the definitions used by other papers in the literature, but is quite different to the "official" definition underlying the main LSYPE analysis in this report, primarily because it is an "ex-post" rather than an "ex ante" definition. This means that gap year takers are defined on the basis of going to HE – and, in this case, successfully completing it – rather than simply intending to do so.

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[11] HE qualifications are defined as those at Level 4 of the National Qualifications Framework or above (see, for example, http://www.ofqual.gov.uk/qualifications-assessments/89-articles/250-explaining-the-national-qualifications-framework).

[12] It is difficult to directly compare these figures to those obtained using either the "official" or "alternative" definitions of gap year takers in the LSYPE, because the LSYPE focuses on participation after a single gap year, whereas the BCS focuses on qualification achievement after as many as three years away from full-time education. The BCS also focuses on Britain rather than England, and is not necessarily representative of its original population because of differential attrition and the lack of readily available population weights.

Figure 2 compares the age at which students obtained their first HE qualification, for the treatment and control groups (gap year takers and those who went straight into HE) respectively. It shows that there is a clear rightward shift in the distribution for gap year takers, with the modal groups showing qualification achievement at ages 22 and 23 for gap year takers, compared with 21 and 22 for those who went straight to HE. This is consistent with most students taking a three or four year degree (or other HE qualification) and with gap year takers taking a single year out. Figure 2 also implies that some gap year takers spent more than a year out of education (or took longer than four years to obtain their qualification), however, with a sizeable proportion of gap year takers obtaining their first HE qualification at age 24 or older.

Figure 2: Distribution of age of completing first full-time HE qualification

Notes: data on the age at which cohort members obtained their first full-time HE qualification is from the age 30 interview (BCS 2000). "Gap year" indicates individuals who obtained their first HE qualification after a break of up to three years from full-time education; "no gap year" indicates individuals who obtained their first HE qualification before leaving full-time education. While it might be legitimate for some individuals to have obtained HE qualifications before age 21 – for example if they took shorter vocational qualifications – some of these earlier observations may represent measurement error inherent in the data. (A small number of individuals who claim to have obtained an HE qualification before age 16 were excluded from the data on this basis.)

Unfortunately, the BCS does not ask its cohort members how long their break from education lasted. Nor does it contain information on course length or the age at which the cohort member entered higher education, which means that the length of gap year taken cannot be directly observed or inferred. There is, however, information on the date at which cohort members obtained their first full-time HE qualification. Assuming that there are no systematic differences between gap year takers and those who go straight into HE in terms of the average length of qualification taken – or the likelihood of having to repeat a year – then comparing the average age of first HE qualification for these groups should provide an indication of the average length of gap year taken.

Table 2: Proxy for average length of gap year

	Higher Education Gap Year			University Gap Year		
	Gap year	No gap year	Difference	Gap year	No gap year	Difference
Mean age of first qualification	22.71	21.13	1.57	23.29	21.93	1.37

Notes: "Higher education gap year" compares individuals who obtained their first HE qualification before leaving full-time education with those who did so having taken a break from full-time education of up to three years. "University gap year" makes the same comparison, but restricts the sample to individuals who obtained a degree (rather than simply an HE qualification) in this way. Data comes from the interviews undertaken at age 30 (BCS 2000).

Table 2 compares the dates on which individuals obtained their first HE qualification amongst those who did so before leaving full-time education with those who did so having taken a break from full-time education of up to three years. Assuming there is no difference, on average, between the length of time it takes to complete their first HE qualification amongst gap year takers and non-gap year takers, this difference can be interpreted as suggesting that gap year takers, on average, spend just over 1.5 years out of full-time education before returning to HE. These figures are consistent with a majority of people taking a single gap year, and some taking 2 or 3 years out; this is also confirmed the pattern shown in Figure 2.

As a robustness check, the analysis in this report was also carried out by restricting the definitions of treatment and control groups to those who obtained a degree (rather than any other HE qualification). The advantages of this restriction are: 1) it might provide a better comparison with gap year takers under the "official" definition in the LSYPE analysis (who have all accepted a place at university); 2) it might offer a more homogenous group of individuals if gap year takers take different types of HE qualifications to non-gap year takers. Table 2 suggests that the average length of a gap year is somewhat smaller – at around 1 year, 4 months – for individuals taking degrees than for all individuals going on to HE, perhaps suggesting that a higher proportion of this group follow the standard model of a single gap year so familiar in the more recent LSYPE cohort. The main disadvantage is that it reduces the sample size significantly – to 252 gap year takers and 1,109 students who went straight to university – which makes it very difficult to identify even substantial effects for this group. The magnitude and sign of the estimated effects do not change dramatically depending on which definition is used, however, which is reassuring. (These results are available on request.)

3   Methodology

Sections 4 and 5 investigate the ways in which gap year takers differ from individuals who go straight into higher education (HE) using data from the LSYPE and BCS respectively. Underlying these comparisons is the assumption that individuals first choose whether or not to go to university and then, conditional upon this choice, decide whether or not to take a gap year. The models considered in this report focus on the second of these decisions, i.e. whether to take a gap year, conditional on having decided to go to university.

The analysis of characteristics is undertaken in two ways: first, simple descriptive statistics are used to compare the proportions of individuals in each group (gap year takers and non-gap year takers) with particular characteristics. The statistical significance of differences in characteristics between the two groups is computed with either a t-test (for single covariates) or an F-test (for multiple covariates, e.g. a series of dummy variables indicating the region that the person comes from).

Although such a comparison of characteristics is undoubtedly interesting, there may be strong correlations between some of the characteristics considered, such that they may not have separate independent effects on the likelihood of taking a gap year relative to going straight to university at age 18. A probit regression model is thus used to try to identify which characteristics are independently associated with a higher propensity to take a gap year, even after controlling for a wide range of other factors.

The probit regression models used take the following form:

$$P(gap_{is} = 1) = F(\alpha + X'_{is}\delta + Z'_s\gamma) + \varepsilon_{is}$$

where, for individual i in school s, gap is a binary indicator, taking a value of one if the cohort member took a gap year according to the relevant definition and zero otherwise; **X** is a vector of individual characteristics, such as gender, ethnicity and various measures of family background; **Z** is a vector of school characteristics, such as the proportion of pupils who are eligible for free school meals, which is only included in the LSYPE analysis; ε is an error term. F is the normal cumulative distribution function. Pupils are clustered within schools in the LSYPE, so standard errors are adjusted for clustering at the school level in the LSYPE analysis. All standard errors are robust to heteroscedasticity.

Section 5 investigates the effect of taking a gap year (or years) on a range of later outcomes using data from the BCS cohort. It does so by running simple ordinary least squares (OLS) or probit regression models, depending on whether the outcome of interest is continuous (such as log hourly wages) or discrete (such as the likelihood of being employed at a particular point in time). The OLS models take the following form[13]:

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[13] The probit regression models take this form: $P(y_i = 1) = F(\alpha + \beta gap_i + X'_i) + \varepsilon_i$

$$y_i = \alpha + \boldsymbol{\beta gap}_i + \boldsymbol{X}_i'\boldsymbol{\delta} + \varepsilon_i$$

where, for individual *i*, *y* is the outcome of interest; *gap* is a binary indicator, taking a value of one if the cohort member took a gap year according to the relevant definition and zero otherwise; **X** is a vector of individual characteristics, such as gender, ethnicity and various measures of family background; ε is an independently and identically distributed error term. Full details of the variables that are included in each of these models can be found in Appendix A.

For the estimates from such a model to be regarded as causal, it must be the case that individuals do not base their decision to take a gap year on any factor that is not included in the model, or, if they do, that this variable does not have an impact on the particular outcome of interest. Bearing in mind the richness of the BCS data, which enables a wide range of measures – including family background characteristics, cognitive ability, motivation and enjoyment of education and engagement in risky behaviours during adolescence – to be included in the model, this does not seem a completely unreasonable assumption to make, and certainly seems more realistic than studies such as Holmlund et al (2008) and Birch & Miller (2007) which are forced to rely on relatively sparse administrative data. Nevertheless, this report remains cautious about referring to these estimates as the causal effects of taking a break from education for those born in 1970.

4   Gap year takers in the LSYPE

This section presents analysis of gap year takers – including their characteristics, reasons for wanting to take a gap year and what they do during and immediately after their gap year – for a recent cohort of individuals from the Longitudinal Study of Young People in England.

Patterns of gap year taking in the LSYPE

Wave 5 of the LSYPE surveyed participants in the summer term of Year 13 (summer 2008) and included a series of questions about whether they intended to go to university, whether they had already applied and whether they intended to take a gap year.

Table 3 shows that just under 36% of LSYPE cohort members had already applied to university at this point, with a further 21% saying they were fairly or very likely to apply to university in future. Those who had already applied or said they were likely to do so in future were then asked whether they intended to take a gap year, with 12.5% expressing an intention to do so, of which 4.8% had applied to university already, but most (7.7% of the total) had not yet done so. This suggests that using figures on deferred entry – such as those provided by UCAS – to draw conclusions about the number of gap year takers in the UK is likely to underestimate the true figure.

A year later, LSYPE cohort members were then asked a series of questions about whether they had applied to university, accepted a place and, if so, whether they were on a gap year. Those who answered "yes" to this question were deemed to be on a gap year according to the "official" measure used throughout this report.

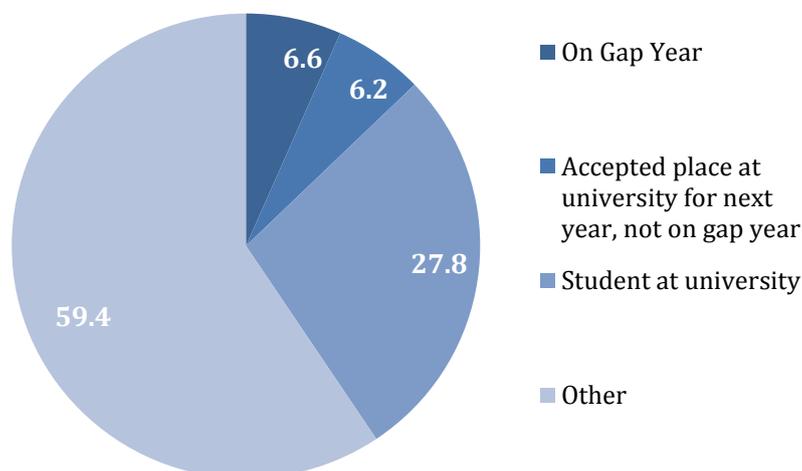**Table 3: Intentions to go to university/take gap year at age 17/18**

		Applied to university	Likely to apply to university	Unlikely to apply to university	**Total (%)**
Intends to take a gap year	Yes	4.8	7.7	0.0	**12.5**
	No	29.0	10.7	0.0	**39.7**
	Don't Know	2.0	2.7	0.0	**4.7**
	Not asked	0.0	0.0	43.0	**43.0**
	Total (%)	**35.9**	**21.0**	**43.0**	**100.0**

Notes: Each cell refers to the percentage of the whole cohort. Sums of cells may not add to totals due to rounding. Data is from Wave 5 of the LSYPE, weighted by the Wave 5 survey weights.

Figure 3 shows that 6.6% of the LSYPE cohort are classified as being on a gap year according to this official definition, compared to 27.8% who are already in university. This proportion seems relatively low compared to the 12.5% of young people who expressed an intention to take a gap year a year earlier. This discrepancy may be partially accounted for by the fact that a further 6.2% of the sample had applied to university and accepted an offer, but did not respond 'Yes' to the question "Are you on a

gap year?" This could, for example, be because they are in full-time education whilst they retake some of their exams and thus do not regard themselves as on a gap year. Figure 3 provides some further insight into this issue.

Figure 3: Gap year takers and students at age 18/19[14]

Notes: Each cell refers to the percentage of the whole cohort rounded to 1 d.p.
Data used is from Wave 6 of the LSYPE, weighted by the Wave 6 survey weights.

It is worth noting that, even after the relevant population weights are applied to the data, LSYPE cohort members are, on average, more likely to go into higher education (HE) than individuals in the population as a whole. The LSYPE suggests that 29.2% of the sample is in HE at age 18 in 2008-09. (This figure is slightly higher than the figure of 27.8% shown in Figure 3, which focuses on those in university only.) By contrast, the official Higher Education Initial Participation Rate for the same year and age was just 22.2%. Similarly, a further 13.5% of the LSYPE sample went into higher education for the first time at age 19, compared to 11.1% for the population of 19 year olds in 2009-10.[15] This disparity is investigated more fully in Anders (2012). To the extent that the overestimation applies equally to gap year takers and those who go straight to university, this disparity should not bias the results presented in this report.

The information available in the LSYPE can also be used to investigate whether those who expressed an intention to take a gap year actually went on to take a gap year. Table 4 shows that 71.6% of those who were regarded as "official" gap year takers in Wave 6 had expressed an intention to take a gap year in Wave 5, while 5.8% were not asked to express an intention because they had said that they were unlikely ever to apply to university. By contrast, two-thirds of those who have applied to and accepted a place at university to start the following year, but report that they are not currently on a gap

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[14] "Other" refers to anyone who, in Wave 6, is not already in university and has not accepted a place at a university for the following year.

[15] Source: http://www.bis.gov.uk/analysis/statistics/higher-education/national-statistics-releases/participation-rates-in-higher-education/heipr-2006-to-2010.

year, did not intend to take a gap year when asked about it in Wave 5. Again, this provides some suggestive evidence that this may be a group of individuals unexpectedly retaking their A-levels in order to secure a university place.

Table 4: Did gap year takers intend to take a gap year?

	Educational status at age 18/19			
	On Gap year	Going to university next year, no gap year	In university	"Non-student"
Intended to take gap year (%)	71.6	12.2	3.0	9.9
Did not intend to take gap year (%)	19.5	66.6	89.6	14.3
Don't Know (%)	3.1	12.2	5.6	3.9
Not asked because unlikely to apply to university (%)	5.8	9.0	1.9	71.9
Total (%)	100	100	100	100
Number of observations	663	834	3,306	4,996

Notes: Each cell refers to the percentage of the group in Wave 6, rounded to 1d.p. Columns may not sum exactly due to rounding. Education status is defined using Wave 6 of the LSYPE, while intention to take a gap year is defined using Wave 5. Data is weighted by the Wave 6 survey weights.

It is also interesting to decompose gap year takers according to the particular "route" that they took in order to get there. With this in mind, data from Wave 5 of the LSYPE can be used to develop five (mutually exclusive and exhaustive) groups of gap year takers, split according to whether or not they applied to university in Year 13 and whether or not they intended to take a gap year, as shown in Table 5.

Table 5: Decomposing gap year takers

	Percentage of gap year takers
Intended deferral of an accepted place	34.3
Unintended deferral of an accepted place	15.8
No offers/not accepted offers	9.3
Total who applied in Year 13	***59.4***
No application, with intention to take gap year	29.8
No application, with no intention to take gap year	11.0
Total who did not apply in Year 13	***40.8***
Total	**100.0**

Notes: Data is weighted using the Wave 6 sample weights. Totals may not sum to 100 due to rounding. "Intended deferral of an accepted place" means that the young person applied to and accepted a place at university in Year 13 and intended to take a gap year; this suggests that they must have intentionally deferred their place at university. By contrast, "unintended deferral of an accepted place" means that the young person applied to and accepted a place at university in Year 13, but did not intend to take a gap year; this may suggest that they did not meet their grade offer or that they simply changed their mind about taking a gap year since they were interviewed in Wave 5.

This table shows that the majority of gap year takers (just under 60%) apply to university in Year 13. The most popular route into a gap year is "intended deferral of an accepted place", which means that the young person applied to and accepted a place at university in Year 13 and reported that they intended to take a gap year in Wave 5 of

the LSYPE; this suggests that they must have intentionally deferred their place at university. The second most popular route into a gap year comprises those who report that they intend to take a gap year, but do not apply in Year 13. These may be students who have decided to apply after receiving their A-level results.

Despite these different "routes", Table 5 suggests that taking a gap year is still seen as a temporary break in full-time education, with 89% of gap year takers having either applied to university or expressed an intention to take a gap year in Wave 5. This is supported by the fact that only 5.8% of gap year takers identified themselves as unlikely to ever apply to university (see Table 4).

Why do young people take a gap year and what do they do during their year off?

Young people who express an intention to take a gap year in Wave 5 are asked about their reasons for doing so. Figure 4 shows the main reason given for taking a gap year amongst two groups: those who intend to take a gap year, and those who intend to and subsequently do take a gap year. It shows that a third of young people cite the main reason for taking a gap year as the desire to become more independent, while a quarter say that it is to have a break from study. Smaller proportions plan to take a gap year to earn money or gain work experience, particularly amongst those who plan to and subsequently do take a gap year, which may suggest that, at least for this cohort, most gap year takers are actively making a choice to take a gap year and delay entry into higher education, rather than being forced to take a gap year to raise money for university, as hypothesised by Kane (1996).

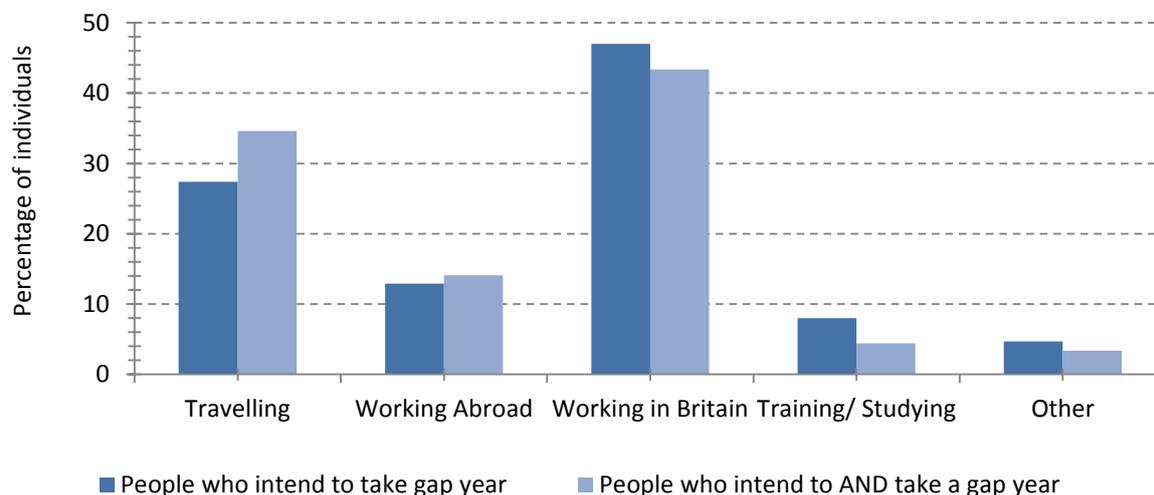**Figure 4: Main reason for intending to take a gap year**

Notes: data weighted by the Wave 5 sample weights.

Individuals who intend to take a gap year in Wave 5 are also asked about the main activity they plan to do on their gap year. Despite the fact that just 20% of those who intend to take a gap year report earning money as their primary reason for doing so, Figure 5 shows that over 40% of those asked report that the main activity they plan to

undertake is work in Britain, with another 12% primarily intending to work abroad. This question only asks for the "main" activity that individuals plan to undertake, however, and Figure 7 below makes clear that these activities are not mutually exclusive; for example, many gap year takers may work in order to fund travel.

Figure 5: Main intended activity for gap year takers

Notes: data weighted by the Wave 5 sample weights.

It is also possible to use LSYPE data to observe the main activities that young people actually end up doing during their gap year. Figure 6 shows that over 60% of gap year takers cite paid work as their main activity, with the second most popular activity being "waiting for a course to start", which was cited by around a quarter of gap year takers.
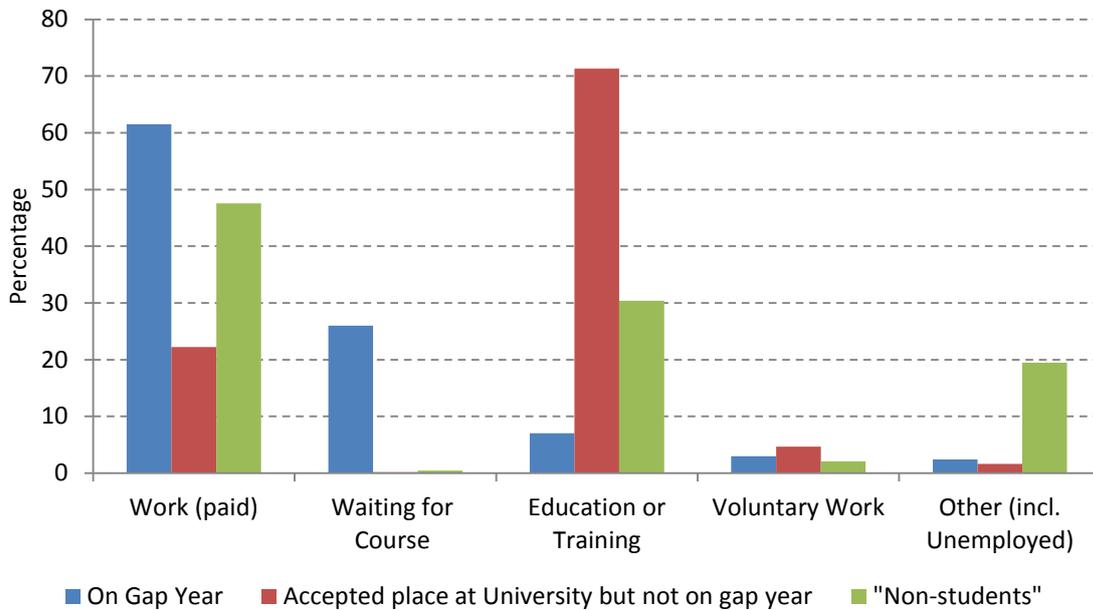
Figure 6 also compares the main activities undertaken by gap year takers with those undertaken by individuals who have accepted a place at university but are not classified as being on a gap year according to the official definition[16] and "non-students" (referring to anyone who is not in university and has not accepted a place at university in Wave 6). In line with the notion of a gap year as a break in full-time education, very few gap year takers report their main activity as being education or training, compared to over 70% of those who have accepted a place at university but do not regard themselves as on a gap year, suggesting that they may be repeating a year in school or college to retake some of their A-levels. It also shows that only a very small percentage of gap year takers are not in education, employment or training (the "other" group in Figure 6), a point returned to below.

Figure 7 goes on to consider all of the activities undertaken by gap year takers during their gap year, not just their main activity, separately for gap year takers that did and did not intend to take a gap year. It shows that over 80% of gap year takers work in Britain at some point during their gap year, with little difference between those who did

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[16] These individuals are not classified as being on a gap year according to the official definition because they responded to the question 'Are you on a gap year?' by answering 'No' or 'Don't know'.
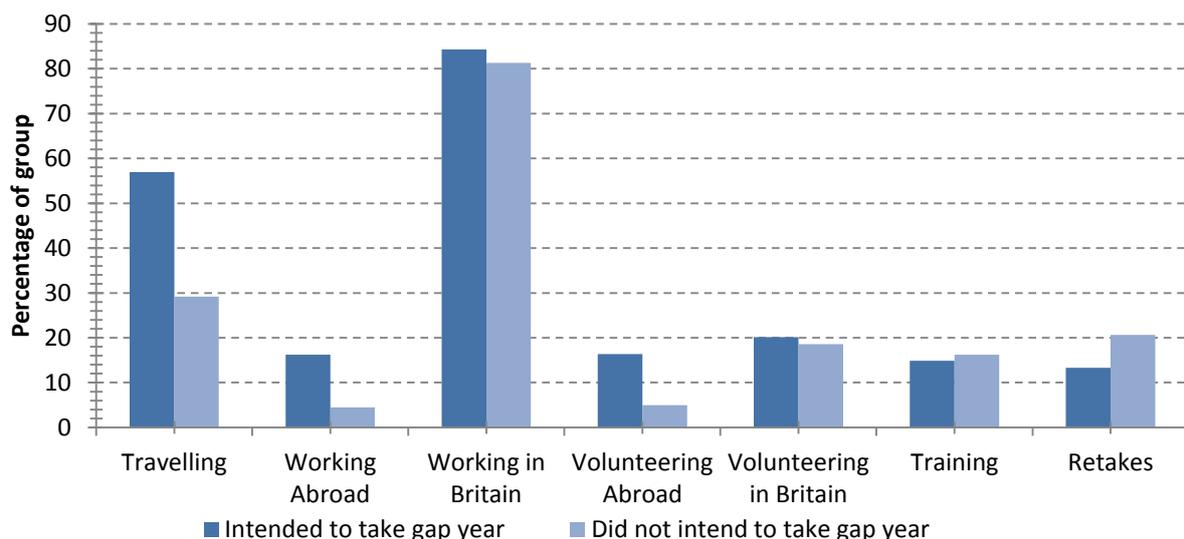
and did not intend to take a gap year. By contrast, intended gap year takers were substantially more likely to report going travelling or working or volunteering abroad at some point during their gap year, while those who did not intend to take a gap year were more likely to have been involved in exam retakes. This is perhaps unsurprising, given that poor exam results may be one reason for taking a gap year unexpectedly.

Figure 6: Main activities of gap year takers relative to other groups[17]

Notes: data are weighted by the Wave 6 sample weights.

Figure 7: All activities undertaken by gap year takers during their gap year

Notes: data are weighted by the Wave 6 sample weights.

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[17] The "other" main activities are: being unemployed, looking after family and waiting for the result of a job application.

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Given that over 80% of gap year takers claim to have worked in Britain at some point during their gap year, it is not likely that gap year takers comprise a substantial proportion of the NEET population. In fact, only 3.7% of gap year takers are classified as NEET as a result of the questionnaire routing used in the LSYPE – most of them unemployed – and only 2.3% of those classified as NEET are on a gap year according to the "official" definition.[18] This suggests that there is not a sizeable group of gap year takers, classified as being NEET, but not needing direct intervention by the government in order to improve their long-term outcomes.

Who takes a gap year?

So far this section has shown that there are a variety of different types of gap year taker who have taken a variety of different routes into their decision. It now moves on to use the richness of the LSYPE data to examine the characteristics of gap year takers relative to those who go straight to university.

Average differences in characteristics

This section starts by comparing the average characteristics of gap year takers with those of young people who go straight to university at age 18. (As a useful reference, it also provides the equivalent comparison for individuals who do not go to university at either age 18 or 19.) These results are reported in Table B1 of Appendix B but do not account for any of the other ways in which gap year takers may differ from those who go straight to university. The conditional differences – i.e. after controlling for a full set of background characteristics – are discussed in the next subsection.
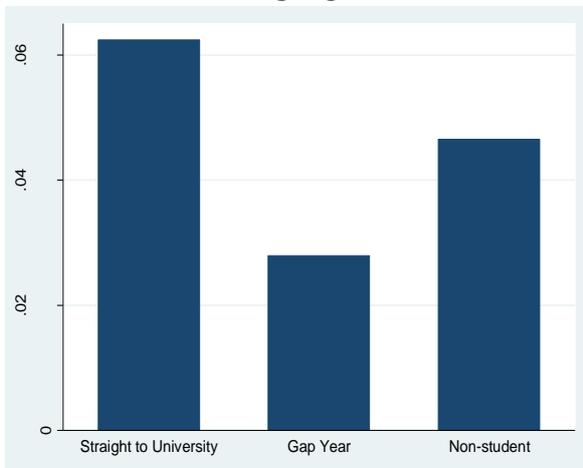
Compared to students who go straight to university, gap year takers are more likely to come from:

- White or native English speaking backgrounds. For example, Figure 8 shows that just 3% of gap year takers speak English as an additional language compared to 6% of those who go straight to university (and 5% of non-students). This is similar to the findings of Birch & Miller (2007) and Holmlund et al (2008) for Australia and Sweden respectively;

- Families of higher socio-economic status, including having university-educated parents and higher household incomes. For example, Figure 8 shows that nearly 30% of the mothers of gap year takers have a degree, compared to just over 20% of the mothers of those who go straight to university and just 6% of the mothers of those who do not go to university at age 18 or 19.
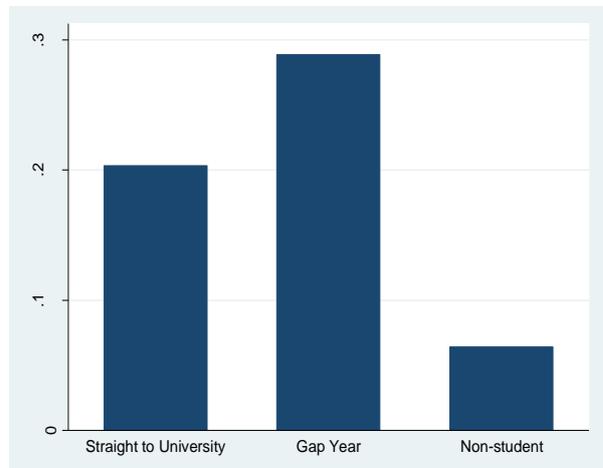
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[18] The NEET definition is closely related to the "Other" group in Figure 6; 99.4% of those classified as NEET in the LSYPE are in this group, and 79.1% of this group are classified as NEET. Of the 24 observed gap year takers who are classified as NEET, 13 are unemployed, 2 looking after the family, 1 volunteering and 8 have a main activity which is unclassifiable.

Figure 8: Comparisons of gap year takers, students and non-students
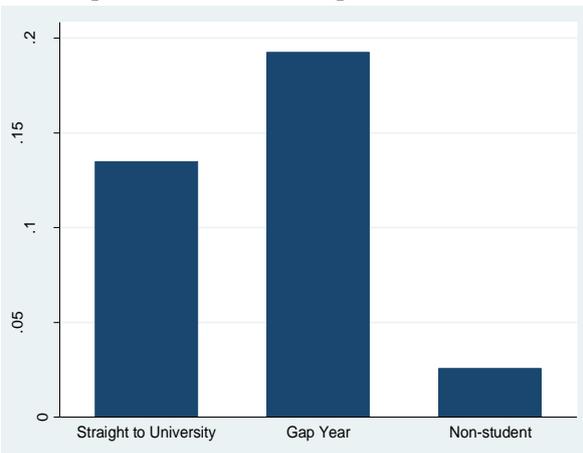
Proportion with English as an additional language
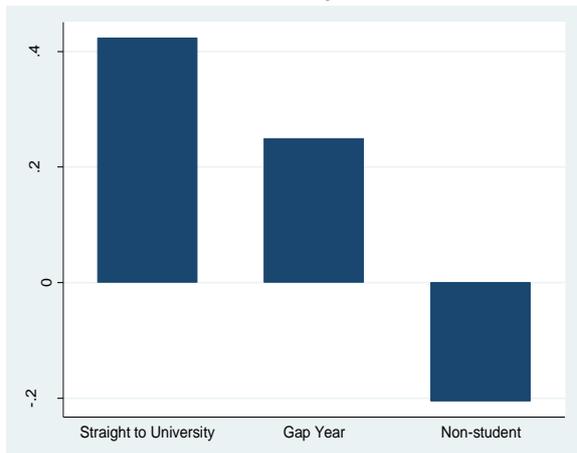

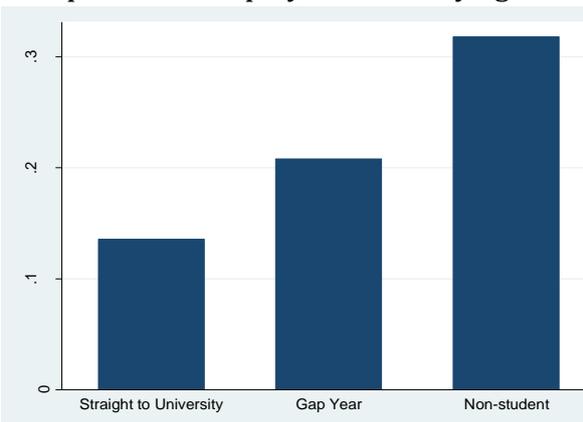Proportion whose mother has a degree
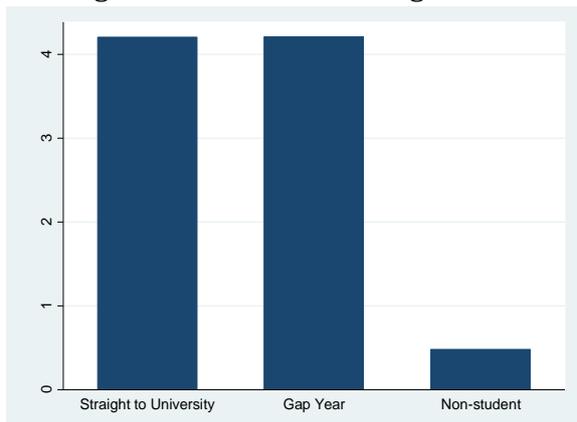

Proportion at an independent school

Standardised ability beliefs score

Proportion ever played truant by age 16
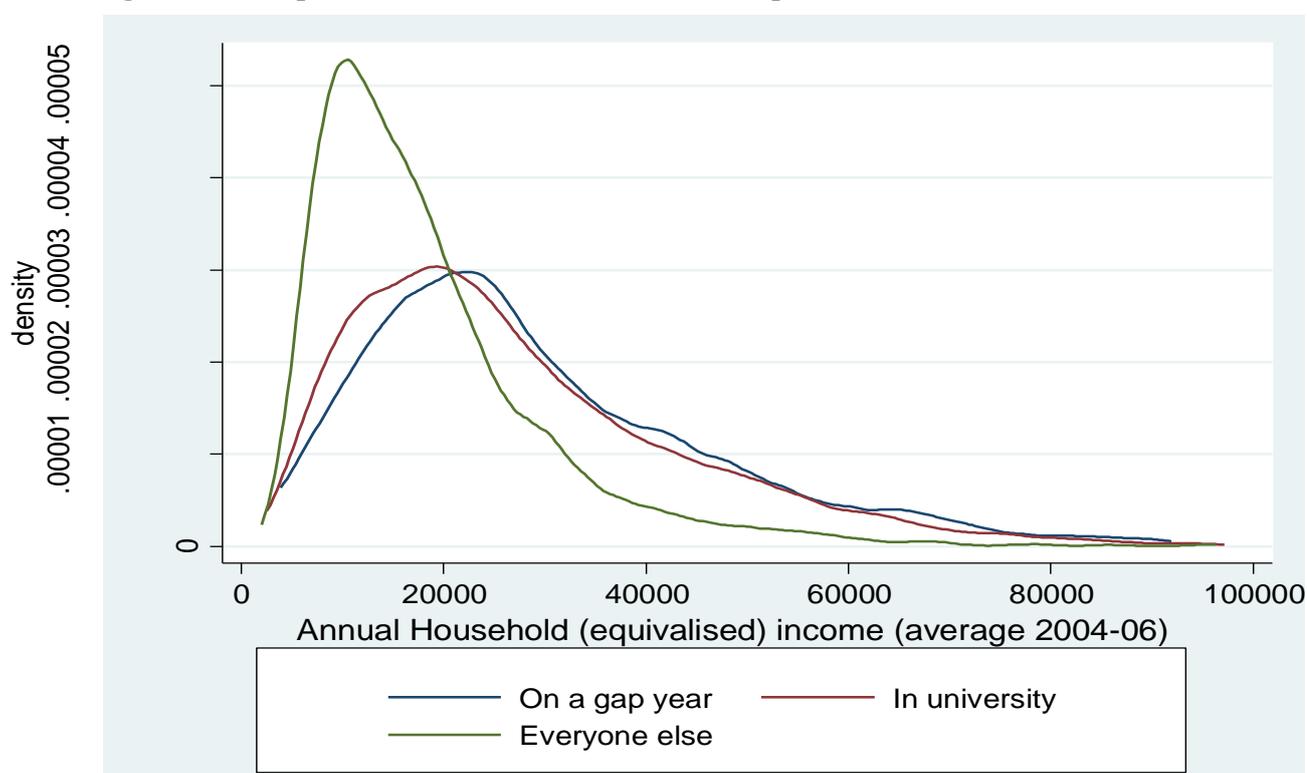

Average number of GCSEs at grades A*-A

Notes: data weighted using Wave 6 sample weights.

Figure 9 goes on to compare the full distributions of equivalised household income[19] for the same three groups. It shows that the distribution of equivalised income amongst the families of gap year takers is slightly to the right of those who go straight to university (and substantially to the right of those who do not go to university at age 18 or 19), but that gap year takers come from a wide range of family incomes, not just the very rich;

- Schools with relatively few pupils on free school meals and higher average academic performance, or from independent schools. For example, Figure 8 shows that nearly 20% of gap year takers come from independent schools, compared to just under 14% of those who go straight to university (and just 3% of those who do not go to university at age 18 or 19).

- East or Southern England;

Figure 9: Comparison of the distributions of equivalised household income

Notes: income is measured using annual household income, equivalised (i.e. adjusted to account for family size) using the OECD modified scale, averaged over three years (2004-2006, when LSYPE cohort members were in the final years of compulsory schooling). Data are weighted using the Wave 6 sample weights.

However, they are also more likely to:

- Have lower belief in their own abilities;

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[19] Equivalised household income is average household income, equivalised (i.e. adjusted to account for family size) using the modified OECD scale and averaged over three years (2004-2006, when LSYPE cohort members were in the final years of compulsory school). Distributions are truncated at £100,000.

- Believe they have less control over their own lives (i.e. a more external locus of control);

- Engage in a range of risky behaviours, such as playing truant, vandalising property and smoking cannabis. For example, Figure 8 shows that over 20% of gap year takers have played truant by age 16, compared to just under 14% of those who go straight to university (and nearly one third of non-students).

Gap year takers are also more likely to attend "better" universities, with 44% of gap year takers attending "high status" universities compared with 37% of those who go straight to university. [20] Interestingly, however, there are no significant differences between gap year takers and those who go straight to university in terms of their overall prior attainment. This is in contrast to the findings of Birch & Miller (2007), Belley & Lochner (2007) and Holmlund et al (2008), who find that young people with lower prior attainment or ability are more likely to delay entry to higher education. The only significant difference found is in terms of the likelihood of taking AS or A-levels in STEM (science, technology, engineering and maths) subjects, with students who go straight to university slightly more likely to take STEM subjects than those who identify themselves as gap year takers according to the official definition.

The early part of this chapter showed that there is substantial heterogeneity in gap year intentions and activities. As such, it is interesting to examine whether different types of gap year takers come from different backgrounds. To this end, the sample of gap year takers is split into two groups: first, the characteristics of individuals who did and did not intend to take a gap year when asked about it in Wave 5 are compared; second, the characteristics of gap year takers who did and did not apply to university before the end of Year 13 are compared. The results of this exercise are shown in Tables B2 and B3 of Appendix B respectively.

Table B2 shows that gap year takers who intended to take a gap year are much more likely to come from affluent backgrounds than those who did not, with better-educated parents and grandparents, higher family incomes, lower deprivation scores and a substantially higher propensity to attend an independent school. In contrast to the results for all gap year takers discussed above, those who intend to take a gap year have significantly higher prior attainment than those who do not at all levels from Key Stage 2 to Key Stage 5; they are also more likely to attend high status universities. These differences are perhaps not surprising, given that some of those who do not intend to take a gap year reported that they were "unlikely ever to apply" to university and may therefore be young people whose decision to go to university is more marginal.

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[20] This group of high status institutions covers roughly one third of all HE participants or just over 10% of the cohort as a whole (on the basis of administrative data – see Chowdry et al, 2010) and includes 20 Russell Group universities, plus any UK HE institution with an average 2001 Research Assessment Exercise score – an indicator of research quality – exceeding the lowest found among the Russell Group universities. (A further four universities were added to the Russell Group in March 2012, but this is not relevant for the period covered by the LSYPE data.)

Interestingly, however, patterns of engagement in risky behaviour and beliefs about their ability and the extent of control over their own lives do not differ according to gap year intentions.[21]

Table B3 presents similar results in terms of the differences between gap year takers who did and did not apply to and accept a place at university before the end of Year 13. It shows that those who applied early were from more socio-economically advantaged backgrounds and had higher prior attainment than those who applied later. The young person and their parents were also substantially more likely to think that they would apply to university when asked about it at age 14.

These comparisons highlight that there seem to be at least two different types of gap year takers: one that plans to take a gap year, applies to and accepts a place at university before they leave school, is more likely to go travelling, has higher ability and comes from a more affluent socioeconomic background, and a second that is less likely to have intended to take a gap year, typically hasn't applied for and accepted a place before they leave school, is more likely to have worked and/or continued in full-time education during their "gap year" and tends to come from a lower socioeconomic background. However, it seems that all gap year takers are, on average, more likely to have lower ability beliefs and a more external locus of control than those who go straight to university at age 18.

What determines gap year participation?

Although the comparison of raw characteristics is undoubtedly interesting, there may be strong correlations between some of the characteristics considered – such as family income and parents' education – which may not have separate independent effects on the likelihood of taking a gap year relative to going straight to university at age 18. A probit regression model is thus used to try to identify which characteristics are independently associated with a higher propensity to take a gap year, even after controlling for a wide range of other factors. (Note, however, that, for the reasons discussed in Section 3, these estimates should still not be interpreted as the causal effects of particular characteristics on gap year taking.)

Table B4 in Appendix B presents the results of this analysis. Average marginal effects are reported, which can be interpreted as the average effect of a change in the control variable on the probability of taking a gap year compared to going straight to university.

These results show that, conditional on all other characteristics, young people are more likely to take a gap year (than go straight to university) if they:

- Live in a deprived area: conditional on all other characteristics, including individual measures of socio-economic status (e.g. family income), a 1 standard deviation

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[21] These results are also very similar if gap year takers are split according to whether or not they go travelling during their gap year. These results are available from the authors on request.

increase in neighbourhood deprivation is associated with a 2.8 percentage point increase in the likelihood of taking a gap year;

- Have a mother with a degree: young people whose mother has a degree are 4.7 percentage points more likely to take a gap year than those whose mother does not;

- Come from a larger family; every additional dependent child in the household increases the young person's likelihood of taking a gap year by 1.6 percentage points[22];

- Have ever shoplifted by year 11 (9.4 percentage points more likely);

- Have ever smoked cannabis by year 11 (7.8 percentage points more likely).

- Live in the South East or South West of England: young people from the South East are around 7 percentage points more likely – and young people from the South West around 11 percentage points more likely – to take a gap year than young people living in London;

On the other hand, they are less likely to take a gap year, conditional on all other characteristics, than go straight to university if they:

- Are of Black African, Indian or Bangladeshi ethnic origin relative to White (10, 9 and 14 percentage points respectively less likely);

- Regularly consume alcohol (4.5 percentage points less likely);

- Have higher belief in their own ability.

Again, there are no significant differences between gap year takers and those who go straight to university in terms of prior attainment at any stage, even after accounting for all the other ways in which these individuals differ from one another.

These results are fairly similar to the raw differences between gap year takers and those who go straight to university described above, although none of the school characteristics remain significant. (This is likely to be because the type of school you go to is strongly correlated with your own socio-economic background; see, for example, Gibbons & Telhaj, 2007.)

Table B4 of Appendix B also presents the results of regressions run separately for men and women, to check whether the characteristics driving the decision to take a gap year differ by gender. These results show some quite considerable differences between men and women in terms of the characteristics that are associated with gap year taking. For example, the overall differences between gap year takers and those who go straight to university in terms of region, language and family size seem to be driven almost entirely by men, while the differences by ethnicity, area deprivation, engagement in most risky

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[22] Other specifications tested for evidence of non-linearity in the effects of the number of dependent children in the household and found none.

behaviours and ability beliefs are driven by women. It is also interesting to note that prior educational attainment appears to have a different effect on the likelihood of taking a gap year for men and women: a one standard deviation increase in GCSE performance reduces the probability of taking a gap year by 13 percentage points for men but increases it by 9 percentage points for women. These differences are not mirrored in performance at Key Stage 5, however.

What do gap year takers do after their gap year?

A question of key policy interest is whether taking a gap year will ultimately reduce the likelihood that a young person will go on to university at all, i.e. whether they will find it more difficult or less appealing to return to education once they have taken time away.

To better understand whether this possibility should be of concern to policymakers, this section investigates the activities of gap year takers at age 19 (i.e. in Wave 7 of LSYPE). One might reasonably expect them all to be in university (or higher education more generally); however, Table 6 shows that only 86% of those who took a gap year were actually in higher education at age 19. This suggests that 14% of those who intended to go on to university at age 19 did not in fact end up doing so. Of those who were not in education, two thirds were in work and one third were doing something else.

Table 6: Activities of gap year takers at age 19

	Percentage in each activity at age 19		
	In higher education	In work	Other
All gap year takers	85.9	9.0	5.0
those who accepted a place at university in year 13	91.0	4.9	4.1
those who had not accepted a place at university in year 13	81.0	13.6	5.4
	Percentage in each activity at age 18		
	In higher education	In work	Other
People who accepted a place at university in year 13 and did not intend to take a gap year	90.2	6.0	3.7

Note: Rows may not sum to 100 due to rounding.

However, Table 6 also makes clear that, even amongst those who accepted a place at university in Year 13 and intended to go straight there (at age 18), only just over 90% actually end up in higher education one year later, meaning that gap year takers are just 5 percentage points less likely to go on. Moreover, amongst gap year takers who had applied to and accepted a place at university in Year 13, 91% went on to participate. This suggests that the smaller proportion of gap year takers who go on to university by age 19 is driven entirely by those who had not already applied and accepted a placed before they left school. As discussed in the previous section, such individuals have lower prior attainment, on average, than those who applied before they left school, suggesting

that it is not implausible that such individuals were more likely to miss their grade offer or to be more marginal HE participants in other ways.

To investigate this possibility in more detail, Table B5 in Appendix B compares the characteristics of gap year takers who do and do not go on to higher education at age 19. As might be expected, gap year takers who do not end up going to university come from more educationally disadvantaged backgrounds than those who do: for example, their parents are substantially less likely to have a degree and to think that their child will go on to university; the young person themselves is also less likely to enjoy school, has lower ability beliefs and, as expected, has substantially lower prior attainment, particularly in terms of GCSEs and A-levels.

Overall, this section has shown that while young people who take gap years are slightly less likely to go on to higher education at age 19 than young people who do not, it is clear that this is driven by individuals who have not already applied and accepted a place by the end of Year 13. It must also be remembered that, because LSYPE does not follow individuals beyond age 19, it is possible that these figures may under-estimate the HE participation rates of gap year takers if they go to university at age 20 or beyond.

Summary

This analysis of gap year takers using data from the LSYPE provides new quantitative evidence on the intentions, activities and characteristics of gap year takers in the UK. It is clear that there are many different routes into a gap year, and that there is substantial heterogeneity in the activities undertaken during a gap year, although almost all gap year takers work in the UK at some point during their gap year. The stated reasons for wanting to take a gap year primarily involve gaining more independence and taking a break from education, rather than saving money to go to university.

Gap year takers are, on average, more likely to come from higher socio-economic backgrounds and better performing schools relative to those who go straight to university, but they also tend to have lower ability beliefs, a more external locus of control (meaning that they are less likely to think they control their own destiny) and are more likely to engage in risky behaviours such as smoking cannabis. In contrast to much of the previous literature in this area, there are few differences in terms of overall prior attainment at any Key Stage, although there is some evidence that those who go straight to university are more likely to have studied STEM subjects at AS- and A-level.

However, there appear to be at least two distinct groups of gap year takers: one plans to take a gap year, applies to and accepts a place at university before they leave school, is more likely to go travelling, has higher ability and comes from a more affluent socio-economic background, and is much more likely to take up their place at university on their return; the other is less likely to have planned to take a gap year, typically hasn't applied for or accepted a place before they leave school, is more likely to have worked and/or continued in full-time education during their "gap year" and tends to come from

a lower socio-economic background (although still significantly higher than the socio-economic background of non-students). These individuals are far less likely to go on to university at the end of their "gap year".

The next section now moves on to compare the characteristics of gap year takers in the LSYPE with those of the older British Cohort Study and, more importantly, uses this older cohort to investigate the long-run consequences of the decision to delay entry to higher education in terms of a range of labour market and other outcomes.

5 Gap year takers in the BCS and the long-run effects of gap years

This section examines the characteristics of an older group of gap year takers from the 1970 British Cohort Study (BCS) and considers the long-term consequences of the decision to delay entry to higher education.

It is important to remember that there are some fundamental differences between gap year takers in the BCS and the Longitudinal Study of Young People in England (LSYPE) in terms of the way the "treatment" and "control" groups are defined. The BCS definition focuses on individuals who have achieved higher education (HE) qualifications and separates those who achieved their first HE qualification before leaving full-time education (the control group) from those who took a break from full-time education for up to three years before returning and achieving their first HE qualification (the treatment group – gap year takers).

The key differences in the classification of gap year takers in the BCS are:

- the focus on those who attend higher education and not just university[23];
- the use of an ex-post rather than an ex-ante definition: the BCS focuses on those who not only participate in HE, but also successfully complete an HE qualification, whereas it is possible for gap year takers in the LSYPE not to go to university at all;
- the fact that a gap year can last up to 3 years in the BCS compared to just a single year in the LSYPE;
- the fact that the BCS includes individuals in England, Wales and Scotland, whereas the LSYPE only includes young people in England.

Despite these differences – and the fact that the BCS and the LSYPE relate to different cohorts who were exposed to different higher education systems – the BCS provides a unique opportunity to study the long-term consequences of the decision to delay entry into HE for a relatively recent cohort of individuals. It is worth considering how applicable the findings from the BCS are to current cohorts of young people (i.e. how externally valid the results are). To do so, this section starts by investigating the characteristics of gap year takers relative to those who go straight into HE in the BCS and compares the results to those for the more recent LSYPE cohort (discussed in Section 4).

Characteristics of gap year takers

Following the LSYPE analysis, this section starts by presenting average differences in each characteristic of interest, before moving on to include all factors simultaneously in a probit regression model. In addition to providing interesting descriptive statistics about gap year takers in the BCS, this analysis also provides reassurance that there is

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[23] Analysis was carried out for both university and HE participants using the "alternative" definition of a gap year taker in the LSYPE and for both those whose first HE qualification was and was not a degree in the BCS; this distinction makes very little difference to the results in either case. (Available on request.)

sufficient overlap in the distributions of background characteristics for gap year takers and those who go straight to HE, to ensure that there is no "common support" problem when estimating the effect of taking a gap year on long run outcomes.[24]

Table C1 in Appendix C compares the average characteristics of gap year takers with those of a comparison group of students who did not take a break before entering HE. It also includes the average characteristics of those who have not achieved an HE qualification (the "non-students"). Full details of the variables included in this analysis can be found in Appendix A.

In contrast to the results found for the LSYPE cohort, Table C1 shows that there is a significant difference in prior educational attainment between the two groups: gap year takers have, on average, 0.5 fewer O-levels at grades 1 to 6 (equivalent to GCSEs at grades A*to C) and 0.4 fewer A-levels than those who go straight into HE. (Interestingly, however, these differences are not also present in terms of the cognitive tests taken at ages 5 and 10.) Figure 10 highlights these differences by comparing the average number of GCSEs or O-levels for the treatment and control groups (gap year takers and not) in both the BCS and LSYPE cohorts, with the LSYPE shown in blue on the left-hand side and the BCS shown in green on the right-hand side.

There is relatively less difference in terms of socio-economic status, with the only significant differences suggesting that the fathers of gap year takers are less likely to work in professional or managerial occupations than the fathers of those who go straight into HE. In contrast to the LSYPE cohort, this suggests that gap year takers tend to come from lower socio-economic backgrounds, on average, than those who go straight into HE. While these results are based on snapshots of two cohorts, it supports a tentative conclusion that the composition of gap year takers may be becoming relatively more affluent over time, perhaps as the decision to take a gap year becomes a more deliberate choice to take time away from education.

As was the case for gap year takers in the LSYPE, gap year takers in the BCS are also more likely to engage in a range of risky behaviours and to feel less in control of their own lives; they are more likely to smoke and take drugs at age 16, more likely to play truant and be suspended from school, more likely to take part in anti-social behaviour and more likely to exhibit an external locus of control. For example, Figure 10 shows that just over 8% of gap year takers have tried cannabis by age 16, compared with just under 6% of those who go straight to HE. Interestingly, gap year takers in the BCS are actually *more* likely to have tried cannabis than individuals who have not acquired an HE qualification. It is also worth noting that the proportion of gap year takers who

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[24] A "common support" problem occurs in regression analysis where there are no (or very few) comparable individuals (in terms of background or prior education, for example) in the treatment and control groups, which means that identification relies on extrapolation to compare very different individuals. A common support problem can lead to biased estimates of a treatment effect.

report that they have tried cannabis has increased dramatically over time, with just 8% of those in the BCS reporting having done so, compared to nearly 30% in the LSYPE.

There are also some significant differences between gap year takers and those who go straight to HE in the BCS which cannot be directly compared to characteristics reported in the LSYPE. For example, teachers were significantly less likely to report that the parents of gap year takers were very interested in their child's education at age 10 than the parents of pupils who went straight onto HE.
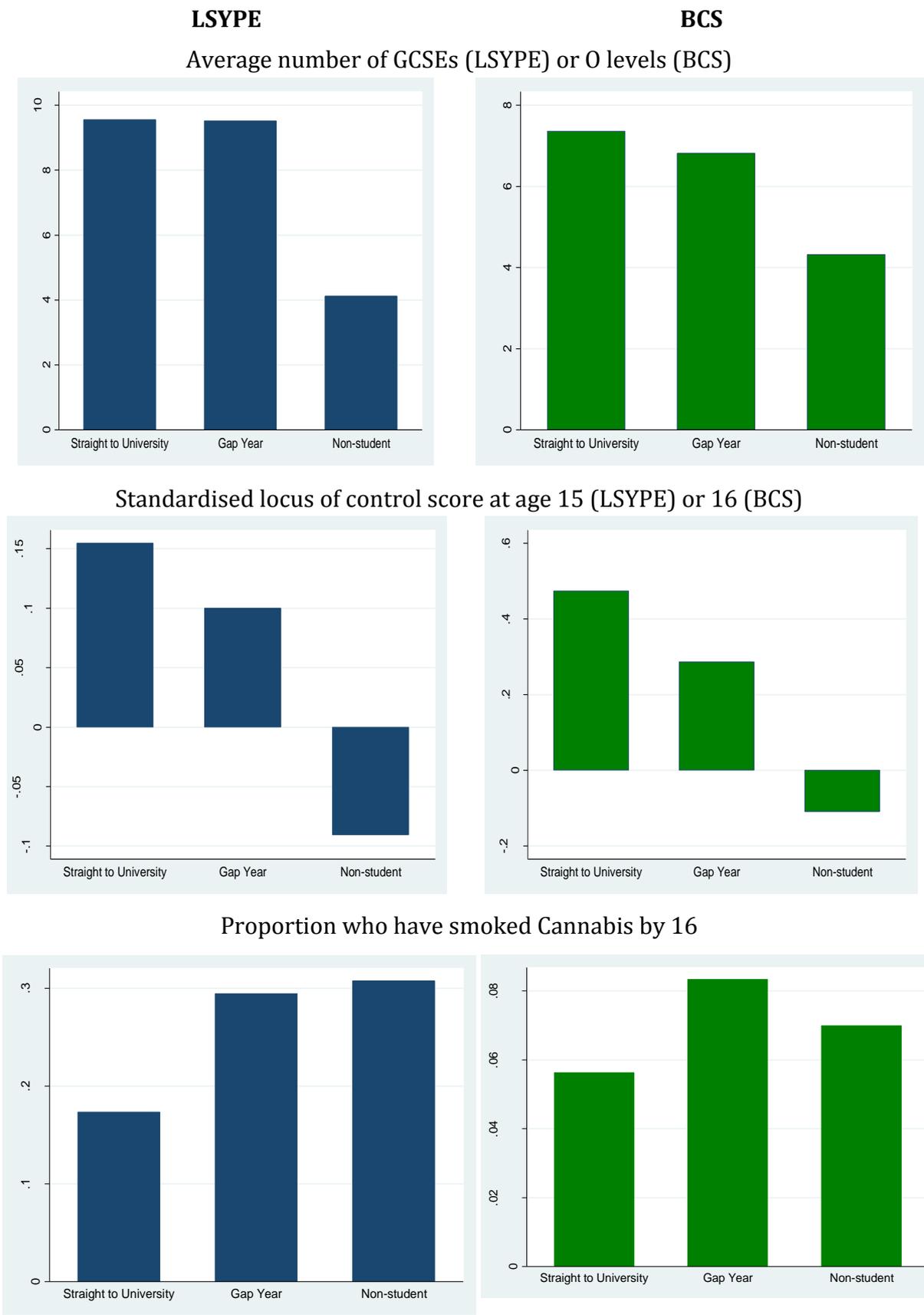
Again, however, these simple average differences do not account for the fact that many of the ways in which gap year takers differ from other cohort members are likely to be highly correlated with one another. A probit model was thus also used to investigate the association between particular characteristics of interest and the likelihood of taking a gap year, conditional on all other factors included in the model.

Table C2 in Appendix C presents the results of this analysis. It shows that very few of the characteristics included in the model are significantly associated with gap year participation when controlling for all other factors. In fact, the only significant associations are as follows: having a father who is "partly skilled" is associated with a 10 percentage point increase in the probability of taking a gap year relative to having a professional/managerial father; similarly, a one standard deviation increase in a scale which indicates the extent to which the child bullied others at age 10 is associated with a 3.2 percentage point increase in the probability of taking a gap year.[25]

These comparisons make it clear that it is difficult to identify many characteristics that are significantly associated with taking a gap year, once the full range of available factors is taken into account, suggesting that gap year takers and those who go straight into HE are actually very similar, at least in terms of observable characteristics.

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[25] Having been suspended from school by age 16 also increases the likelihood of taking a gap year by a staggering 45 percentage points, but this is driven by very few observations and so should not be regarded as a robust result.

Figure 10: Comparisons of Gap year takers and other groups in LSYPE and BCS

LSYPE   **BCS**

Average number of GCSEs (LSYPE) or O levels (BCS)

Standardised locus of control score at age 15 (LSYPE) or 16 (BCS)

Proportion who have smoked Cannabis by 16

Long run impacts of taking a gap year

With a small but significant proportion of young people taking gap years, it is an interesting and important question to understand what effect delaying entry to higher education (HE) may have on a range of later life outcomes. This section focuses on the effects of taking a gap year on wages and earnings when an individual is aged 30, 34 and 38. It also considers some of the potential routes through which taking a gap year might plausibly affect wages and earnings, including employment status, experience and degree class. (Appendix D provides some robustness checks on these findings and Appendix E considers the effect of taking a gap year on engagement in a range of risky behaviours.)

The analysis presented above suggested that gap year takers and those who went straight into HE were similar in terms of observable characteristics. This provides some reassurance that any significant differences that may be found between these individuals in terms of their later outcomes might be suggestive of an underlying causal effect of gap year choice, rather than simply being the result of different types of individuals making different choices.

Of course, gap year takers and those who go straight into HE may still differ in ways that are unobservable to the researcher, which would undermine such an interpretation. As discussed above, for the estimates of the effect of taking a gap year to be regarded as causal, individuals must not base their decision on whether to delay entry to HE on any factor not included in the model, or, if they do, this variable must not have any bearing on the outcome of interest. While the richness of the BCS data means that this might not be a completely unreasonable assumption to make, this report remains cautious about referring to these estimates as causal effects.

Impact on degree class

This section starts by considering whether the decision to take a gap year rather than go straight into higher education has any effect on degree outcomes, which could be a potentially important mechanism through which future labour market outcomes might be affected. Table 6 reports the effects of taking a gap year on the probability of being awarded a first or upper second class degree from a probit regression model.[26]

Column 1 of Table 7 presents the results of the regression of degree class on the gap year indicator, with no other variables included in the model; this is similar to the simple comparison of means carried out on the LSYPE and BCS samples above. It suggests that gap year takers are 1.6 percentage points more likely to achieve a first or second class degree than those who went straight into HE, but that this difference is not significantly different from zero.

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[26] These results are similar if one restricts attention to individuals who went to university only.

Column 2 of Table 7 repeats this analysis, this time including a full set of background characteristics in the model, including prior attainment. (These background characteristics are described in detail in Appendix A.) While the previous section suggested that there were relatively few significant differences between gap year takers and those who went straight into HE, some of those differences may be expected to have important impacts on educational attainment. Adding these characteristics to the model provides an indication of the extent to which the raw difference in educational attainment between those who do and do not choose to take a gap year may be explained by the other ways in which these individuals differ from one another.

Table 7: Effect on probability of being awarded a 1ˢᵗ or II.I class degree

	Gains a First or Upper Second in degree	
Specification	(1)	(2)
Gap Year	0.016	0.049
	[0.033]	[0.034]
PseudoR²	0.00	0.08
N	1,485	1,485

Notes: ** means the effect is significantly different from zero at the 1% level, * at the 5% level. Estimation is by Maximum likelihood of a probit model with the dependent variable equal to 1 if the individual gained a first or upper second in their degree or 0 if passed with a lower grade or achieved a different qualification. Average marginal effects are reported. Standard errors are robust to heteroscedasticity and report in square brackets. Column 1: no other control variables. Column 2: including other background characteristics (described in detail in Appendix A).

Interestingly, adding these characteristics to the model actually increases the association between gap year status and degree class; individuals who choose to take a gap year are now 4.9 percentage points more likely to achieve a first or second class degree compared to otherwise observationally identical individuals who go straight into HE. Given the fact that the analysis above suggested that gap year takers entered higher education with significantly poorer educational attainment than those who went straight there, it is perhaps not altogether surprising that, once we compare individuals with similar levels of prior attainment, the positive relationship observed in Column 1 increases. This is consistent with the results of Birch & Miller (2007) who found significant positive impacts of taking a gap year on first year undergraduate exam marks, despite the fact that gap year takers entered university with lower average attainment.

One must be slightly careful in interpreting these results, however, as the standard of degree class may vary across university; thus, if gap year takers tend to go to lower quality universities, on average, then they may achieve higher class degrees from lower quality universities. This is not something that can be investigated directly, however, as the BCS does not contain information on the university attended.

Impact on wages and earnings

The main focus of this section is on the impact of taking a gap year on wages and earnings. To start, simple ordinary least squares regression models are used to

investigate the effect of taking a gap year on log real hourly wages at ages 30, 34 and 38, the results of which are presented in Table 8.[27] The coefficients can be interpreted as the impact of taking a gap year (relative to going straight to HE) on hourly wages, accounting for inflation, in percentage terms. For example, a coefficient of -0.05 indicates that the wages of gap year takers are 5% lower, on average, than the wages of individuals who go straight into higher education.

Table 8: Effect of taking a gap year on log hourly wages at ages 30, 34 and 38

	Log wages at age 30	
Specification	(1)	(2)
Effect of taking a gap year relative to going straight to HE	-0.089** [0.030]	-0.065* [0.031]
R² (predictive power of the model)	0.01	0.18
Number of observations	1,566	1,566

	Log wages at age 34	
Specification	(1)	(2)
Effect of taking a gap year relative to going straight to HE	-0.095** [0.037]	-0.039 [0.036]
R² (predictive power of the model)	0.00	0.22
Number of observations	1,274	1,274

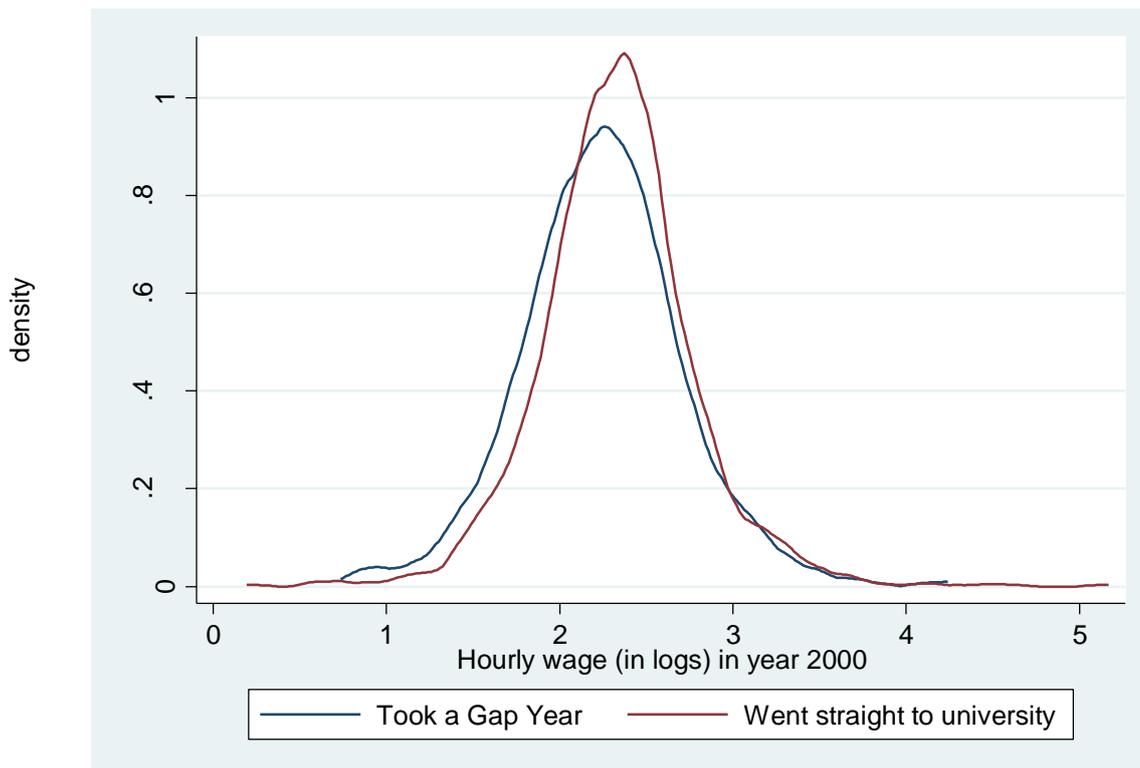|	Log wages at age 38	
Specification	(1)	(2)
Effect of taking a gap year relative to going straight to HE	-0.065 [0.038]	-0.017 [0.040]
R² (predictive power of the model)	0.00	0.24
Number of observations	1,110	1,110

Notes: ** means the effect is significantly different from zero at the 1% level, * at the 5% level. Standard errors are robust to heteroscedasticity and reported in square brackets. Hourly wages are deflated by RPI and expressed in constant January 2001 prices (age 30), January 2006 prices (age 34), January 2010 prices (age 38). Column 1: no other control variables. Column 2: including other background characteristics (described in detail in Appendix A).

Column 1 of Table 8 presents the results of the regression of wages on the gap year indicator, with no other variables included in the model. These results show that, on average, gap year takers tend to earn less per hour in real terms than individuals who go straight to HE. For example, at age 30, there is a large and significant raw effect, with gap year takers earning 8.9% less per hour than those who go straight to HE. Moreover, Figure 11 shows that this effect occurs not only at the mean, but across the full distribution of log hourly wages at age 30. Table 8 shows that there is a similarly large mean difference at age 34, of -9.5%, but by age 38, the raw difference is lower, at -6.5%, and is not statistically significant, most likely due to the relatively small sample sizes available.

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[27] Full details of all other regression coefficients are available from the authors on request.

Column 2 of Table 8 shows that the addition of the full range of background characteristics to the model reduces the estimates of the effect of taking a gap year compared to the raw differences, particularly at later ages. For example, at age 30, gap year takers earn 6.5% less than otherwise identical HE graduates who have not taken a gap year; by age 34, this has fallen to 3.9% and is not statistically significant and by age 38, the gap has fallen to just 1.7%.

Figure 11: Distribution of log hourly wages at age 30

Note: Wages are deflated by RPI and expressed in constant January 2001 prices.

Of course, one of the key ways in which gap year takers differ from individuals of the same age who have gone straight into HE is the amount of labour market experience that they may have had before and after graduation. As outlined in the introduction – and discussed at length in Holmlund et al (2008) – assuming there are no differences in average course length, the only difference between these two groups is in the timing of their potential labour market experience. If post-graduation work experience is more valuable than pre-graduation work experience – and experience is rewarded in the labour market – then that might potentially explain the gap year penalty outlined above. Indeed, the fact that the wage gap falls over time already provides some suggestive evidence that this might be an important issue, with the difference in potential labour

market experience declining in relative importance over time, as individuals acquire more post-graduation experience.[28]

The BCS collects data on each cohort member's full employment history, from 1986 to 2004, i.e. between ages 16 and 34. Using this information, it is possible to observe, in each month, whether or not the cohort member was in work. It is therefore possible to disentangle the effect of experience – and of when that experience occurs – from the effect of taking a gap year.

Table 9 presents the results of this decomposition for wages at 30. Column 1 reproduces the wage gap after accounting for observable characteristics from Column 2 of Table 8. Column 2 of Table 9 replaces this binary gap year indicator with a simple linear variable indicating the number of years of experience an individual has. It shows that each additional year of experience is associated with a 1.6% increase in hourly wages, over and above all the other background characteristics that are included in the model.

Column 3 goes on to investigate whether it matters when this experience is obtained, by separately accounting for experience gained before and after achieving their first HE qualification. For both gap year takers and those who go straight to HE, pre-graduation experience includes work undertaken whilst they are studying; for gap year takers it additionally includes experience gained prior to entering HE. Column 3 clearly shows that pre- and post-graduation experience are not rewarded equally in the labour market. In fact, there appears to be little return to labour market experience gained prior to receiving your first HE qualification, balanced by a slightly larger return to experience gained post-graduation than that shown for total experience in Column 2. This clearly highlights one of the reasons why gap year students may be receiving lower wages in their 30s; they are reducing the number of years of post-graduation labour market experience during which they can reap the returns to their investment in human capital.

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[28] Of course, the available sample size also decreases over time. This is due both to attrition from the survey and to variation in the number of people in the labour market for whom wages are observed. The main results presented in this chapter use the maximum available sample size in each wave. Table D1 in Appendix D explores the extent to which the changing composition of this sample may be affecting the results, by imposing various common sample restrictions. It shows that the imposition of a common sample restriction across ages 30 and 34 makes relatively little difference to the results presented in this chapter, but that the additional restriction to age 38 makes somewhat more difference. For individuals who are observed in work at age 38, there appears to be little evidence of a significant effect of taking a gap year on hourly wages at any age. Nonetheless, a similar pattern of change over time emerges, with the coefficient estimates diminishing as the individual ages, such that the overall conclusions about the effect of experience do not change, regardless of the sample used. Various other sensitivity tests are also undertaken, including estimating the effects separately for men and women and excluding the top and bottom 1% of wage earners. The results of these tests can be found in Table D2 of Appendix D. There is no evidence of systematic differences in the effect of taking a gap year for men and women; however, the estimates are on average 1 to 2 percentage points closer to zero when ignoring the top and bottom 1% of wage earners. This implies that a reasonable proportion of the effect of taking a gap year may be driven by these unusual wage earners.

Column 4 of Table 9 highlights this fact even more forcefully, by adding back the gap year indicator into the model. The interpretation of this coefficient is now the effect of taking a gap year, over and above any effect it might have on both the amount and timing of your labour market experience. It is clear that the effect has fallen substantially compared to the overall effect reported in Column 1 of Table 9 and is now not significantly different from zero, suggesting that one of the key routes through which taking a gap year affects your wages is through its effect on the amount and timing of your labour market experience.

Table 9: Effects of gap years and experience on log hourly wages at age 30

Specification	1	2	3	4	5
Gap year	-0.065* [0.031]			-0.039 [0.031]	-0.033 [0.030]
Total experience		0.016** [0.005]			
Pre graduation experience			0.003 [0.007]	0.004 [0.007]	0.005 [0.007]
Post graduation experience			0.021** [0.005]	0.021** [0.006]	0.036** [0.006]
Postgraduate degree					-0.079** [0.029]
Professional Qualification					0.126** [0.027]
1st Class in first degree					0.289** [0.055]
2.i in first degree					0.126** [0.039]
2.ii in first degree					0.113** [0.039]
R² (predictive power)	0.21	0.21	0.23	0.23	0.24
Observations	1,566	1,566	1,566	1,566	1,566

Notes: ** means the effect is significantly different from zero at the 1% level, * at the 5% level. Estimated by OLS. Standard errors are robust to heteroscedasticity and shown in square brackets. Hourly wages are deflated by RPI and expressed in constant January 2001 prices. Each regression controls for background characteristics. Experience pre graduation is the number of months of employment from January 1986 to August in the year of graduation. Experience post graduation is the number of months of employment from September in the year of graduation until the month of interview.

Finally, Column 5 investigates the extent to which the differences in wages between those who take gap years and those who do not arises as a result of the nature of the qualification that they take or the degree class that they are awarded. While the type of qualification undertaken and class of degree awarded appear to have large and significant effects on hourly wages, they appear to make only a relatively small difference to the gap year coefficient. This supports the results on degree class shown in Table 7 above, suggesting that the quality or level of qualification obtained does not

appear to be a particularly important route through which gap year choices affect adult wages. Table 10 repeats this analysis for wages at age 34, with similar results.

Table 10: Effects of gap years and experience on log hourly wages at age 34

Specification	1	2	3	4	5
Gap year	-0.039 [0.036]			-0.012 [0.037]	0.001 [0.035]
Total experience		0.022** [0.007]			
Pre graduation experience			0.011 [0.009]	0.012 [0.009]	0.015 [0.009]
Post graduation experience			0.026** [0.007]	0.026** [0.007]	0.046** [0.008]
Postgraduate degree					0.000 [0.039]
Professional Qualification					0.155** [0.039]
1st Class in first degree					0.203** [0.067]
2.i in first degree					0.065 [0.050]
2.ii in first degree					0.077 [0.049]
R^2 (predictive power)	0.22	0.22	0.23	0.23	0.27
Observations	1,274	1,274	1,274	1,274	1,274

Notes: ** means the effect is significantly different from zero at the 1% level, * at the 5% level. Estimated by OLS. Standard errors are robust to heteroscedasticity and shown in square brackets. Hourly wages are deflated by RPI and expressed in constant January 2006 prices. Each regression controls for background characteristics. Experience pre graduation is the number of months of employment from January 1986 to August in the year of graduation. Experience post graduation is the number of months of employment from September in the year of graduation until the month of interview.

As a robustness check the same regressions are run using weekly earnings rather than hourly wages at ages 30 and 34. These results are presented in Tables 11 and 12 respectively, using the same specifications as for wages (although this time adding the raw differences between gap year takers and those who go straight into HE in Column 1). One would only expect these results on earnings to differ from those on wages if there are systematic differences between the number of hours worked per week between gap year takers and non gap year takers. This does not appear to be the case, as the results are very similar to those for wages, again suggesting that the main route through which the decision to postpone entry to higher education affects earnings is through its effect on the timing and amount of experience received.

Table 11: Effects of gap years and experience on log weekly earnings at age 30

Specification	1	2	3	4	5	6
Gap year	-0.094* [0.039]	-0.049 [0.037]			-0.026 [0.038]	-0.016 [0.037]
Total experience			0.025** [0.007]			
Pre graduation experience				0.015 [0.010]	0.016 [0.010]	0.018 [0.010]
Post graduation experience				0.028** [0.007]	0.028** [0.007]	0.049** [0.008]
Postgraduate degree						-0.056 [0.034]
Professional Qualification						0.195** [0.031]
1st Class in first degree						0.239** [0.068]
2.i in first degree						0.094* [0.046]
2.ii in first degree						0.088 [0.046]
R^2 (predictive power)	0.00	0.23	0.24	0.24	0.24	0.28
Observations	1,566	1,566	1,566	1,566	1,566	1,566

Notes: ** means the effect is significantly different from zero at the 1% level, * at the 5% level. Standard errors are robust to heteroscedasticity and shown in square brackets. Weekly earnings are deflated by RPI and expressed in constant January 2001 prices. Column 1 does not include any background characteristics; Columns 2 onwards include a full set of background characteristics. Experience pre graduation is the number of months of employment from January 1986 to August in the year of graduation. Experience post graduation is the number of months of employment from September in the year of graduation until the month of interview.

Table 12: Effects of gap years and experience on log weekly earnings at age 34

Specification	1	2	3	4	5	6
Gap year	-0.102* [0.048]	-0.025 [0.047]			0.012 [0.049]	0.035 [0.046]
Total experience			0.034** [0.009]			
Pre graduation experience				0.023 [0.012]	0.022 [0.012]	0.028* [0.012]
Post graduation experience				0.037** [0.010]	0.037** [0.010]	0.070** [0.011]
Postgraduate degree						0.044 [0.043]
Professional Qualification						0.282** [0.045]
1st Class in first degree						0.210** [0.081]
2.i in first degree						0.016 [0.061]
2.ii in first degree						0.07 [0.061]
R^2 (predictive power)	0.00	0.28	0.29	0.29	0.29	0.35
Observations	1,274	1,274	1,274	1,274	1,274	1,274

Notes: ** means the effect is significantly different from zero at the 1% level, * at the 5% level. Standard errors are robust to heteroscedasticity and shown in square brackets. Weekly earnings are deflated by RPI and expressed in

constant January 2006 prices. Column 1 does not include any background characteristics; Columns 2 onwards include a full set of background characteristics. Experience pre graduation is the number of months of employment from January 1986 to August in the year of graduation. Experience post graduation is the number of months of employment from September in the year of graduation until the month of interview.

How do these results compare to other studies? Holmund et al (2008) adopt a similar approach and apply it to Swedish administrative data. After controlling for background characteristics, they find an average effect on earnings of -3.6% per gap year taken. As the average length of gap year in this study amounts to around 1.5 years (see Table 2 in Section 2), the appropriate figure for comparison is around -5.4%, which is similar to the effect of -4.9% on earnings at age 30 found in this study (see Column 2 of Table 11).

One of the advantages of the data used by Holmund et al (2008), however, is that they are able to observe the length of gap year taken. This means that they can estimate the impact of gap years of different lengths and allow them to vary non-linearly. When doing so, they find that there are only small impacts of a one year gap year (-1.6%), but that the effect is -3.4% for two years, -7.1% for three years and -13.0% for a four year gap year. If the same pattern were to hold in the BCS, then dividing the estimated impacts outlined above by a proxy for the average length of a gap year in order to draw conclusions for a standard one year gap year may be misleading.

Impact on employment

It is clear from the analysis above that labour market experience is one of the key routes through which gap year decisions affect wages and earnings. It is therefore also interesting to look at the direct effect of taking a gap year on various measures of employment status. For each outcome, the first two columns of Tables 13-16 present the raw effects and the effects after controlling for a rich set of background characteristics observed during childhood (and described in detail in Appendix A).[29] The final column of each table additionally controls for higher education qualifications obtained, as well as the cohort member's own family structure (marital status and number of children) interacted by gender. These controls are added to try to account for the fact that they are potentially important determinants of labour market participation, the latter particularly for women, but are added separately from other background characteristics, because they are observed after the cohort member has decided whether or not to take a gap year, thus one cannot be completely certain that they have not been affected by this decision and may thus be potentially "endogenous".

Table 13 starts by presenting the effect of taking a gap year (relative to going straight to HE) on the likelihood of being in work at four particular points in time: upon graduation and at ages 30, 34 and 38. It presents some evidence that taking a gap year reduces the likelihood of being in work at any given point in time, although the point estimates are not always significantly different from zero.

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[29] The effects of other characteristics on employment status are in line with those found in previous literature and so are not discussed further as part of this report.

Table 13: Effect of taking a gap year on the likelihood of being in work

	Employment on Graduation			Employment at age 30		
Specification	(1)	(2)	(3)	(1)	(2)	(3)
Gap Year	-0.013 [0.029]	-0.02 [0.029]	-0.01 [0.028]	-0.035* [0.016]	-0.028 [0.015]	-0.042** [0.014]
R² (predictive power)	0.00	0.06	0.1	0.00	0.15	0.26
Observations	1,889	1,889	1,889	1,939	1,939	1,939

	Employment at age 34			Employment at age 38		
Specification	(1)	(2)	(3)	(1)	(2)	(3)
Gap Year	0.000 [0.021]	-0.001 [0.019]	-0.008 [0.019]	-0.026 [0.020]	-0.043* [0.019]	-0.042* [0.018]
R² (predictive power)	0.00	0.19	0.22	0.00	0.17	0.19
Observations	1,660	1,660	1,660	1,575	1,575	1,575

Notes: ** means the effect is different from zero at the 1% level, * at the 5% level. Estimation is by Maximum likelihood of a probit model. Standard errors are robust to heteroscedasticity and reported in square brackets. Column 1: no controls. Column 2: background controls observed during childhood (and described in detail in Appendix A). Column3: background controls plus controls for HE attainment and family structure in adulthood.

Using the employment history files, it is also possible to look at the effect of taking a gap year on the percentage of time spent in work between graduation and age 30, and between age 30 and 34. These results are shown in Table 14.

Table 14: Effect of taking a gap year on percentage of time employed

	Percentage of Time Employed between Graduation and 30		
Specification	(1)	(2)	(3)
Gap Year	-0.034* [0.014]	-0.024 [0.014]	-0.021 [0.014]
R² (predictive power)	0	0.08	0.16
Observations	1,888	1,888	1,888

	Percentage of Time Employed between age 30 and 34		
Specification	(1)	(2)	(3)
Gap Year	-0.009 [0.013]	-0.003 [0.014]	-0.003 [0.014]
R² (predictive power)	0	0.09	0.1
Observations	1,615	1,615	1,615

Notes: ** means the effect is different from zero at the 1% level, * at the 5% level. Estimation is by OLS. Standard errors are robust to heteroscedasticity and reported in square brackets. Column 1: no controls. Column 2: background controls observed during childhood (and described in detail in Appendix A). Column3: background controls plus controls for HE attainment and family structure in adulthood.

Table 14 shows that there is a small negative effect of between 2 and 3 percentage points of taking a gap year on the percentage of time spent in work between graduation and age 30, but no effect on the percentage of time spent employed between age 30 and 34. If getting a job after leaving higher education takes a fixed number of months, then this could be artificially driving the graduation to age 30 results, because there will be a greater number of months between graduation and the age 30 interview for non gap

year takers. The importance of post-graduation experience in driving the gap year effect on wages suggests that this is not the whole story, however.

Finally, Table 15 investigates the effect of taking a gap year on the likelihood of working full-time relative to part-time and Table 16 investigates the effect on the number of hours worked per week (conditional on being in employment), at ages 30, 34 and 38. All of the estimates are small and none are statistically significant, suggesting that the decision of whether or not to take a gap year makes relatively little difference to the number of hours worked later in life. This was also suggested by the fact that there was relatively little difference between the results for wages and earnings discussed above.

Table 15: Effect on probability of full-time relative to part-time employment

	Full Time Employment at 30		
Specification	(1)	(2)	(3)
Gap Year	-0.006	0.005	-0.008
	[0.016]	[0.015]	[0.013]
R^2 (predictive power)	0	0.24	0.38
Observations	1,749	1,731	1,723

	Full Time Employment at 34		
Specification	(1)	(2)	(3)
Gap Year	0.013	0.02	-0.008
	[0.024]	[0.022]	[0.021]
R^2 (predictive power)	0	0.31	0.41
Observations	1,457	1,457	1,457

	Full Time Employment at 38		
Specification	(1)	(2)	(3)
Gap Year	0.011	0.004	-0.003
	[0.028]	[0.024]	[0.022]
R^2 (predictive power)	0	0.36	0.44
Observations	1,391	1,379	1,379

Notes: ** means the effect is significantly different from zero at the 1% level, * at the 5% level. Estimation is by Maximum likelihood of a probit model with the dependent variable equal to 1 if the individual is in full-time employment and 0 if they are in part-time employment. Average marginal effects are reported. Standard errors are robust to heteroscedasticity and reported in square brackets. Column 1: no controls. Column 2: background controls observed during childhood (and described in detail in Appendix A). Column3: background controls plus controls for HE attainment and family structure in adulthood.

Table 16: Effect on hours worked per week, conditional on being employed

	Hours worked per week, age 30		
Specification	(1)	(2)	(3)
Gap Year	-0.061 [0.741]	0.719 [0.728]	0.356 [0.739]
R^2 (predictive power)	0	0.14	0.18
Observations	1,589	1,589	1,589

	Hours worked per week, age 34		
Specification	(1)	(2)	(3)
Gap Year	-1.31 [0.807]	-0.818 [0.857]	-0.738 [0.893]
R^2 (predictive power)	0	0.21	0.28
Observations	1,297	1,297	1,297

	Hours worked per week, age 38		
Specification	(1)	(2)	(3)
Gap Year	-0.618 [0.901]	-0.242 [0.869]	0.065 [0.892]
R^2 (predictive power)	0	0.29	0.33
Observations	1,202	1,202	1,202

Notes: ** means the effect is significantly different from zero at the 1% level, * at the 5% level. Estimation is by Maximum likelihood of a probit model with the dependent variable equal to 1 if the individual is in full-time employment and 0 if they are in part-time employment. Average marginal effects are reported. Standard errors are robust to heteroscedasticity and reported in square brackets. Column 1: no controls. Column 2: background controls observed during childhood (and described in detail in Appendix A). Column3: background controls plus controls for HE attainment and family structure in adulthood.

Other outcomes

Appendix E discusses the effects of taking a gap year on a range of other outcomes, including family formation and engagement in a variety of risky behaviours. It shows that, relative to those who go straight into HE, gap year takers are less likely to have ever been married and more likely to smoke tobacco or cannabis, but no different in terms of alcohol consumption or the likelihood of suffering from mental health problems. These results are discussed in an Appendix rather than in the main text, because the potential routes through which decisions over whether or not to delay entry to higher education might affect these outcomes is much less clear than in the case of wages or labour market experience.

Summary

This section has shown that gap year takers from the older BCS cohort tend to come from poorer socio-economic backgrounds and have lower educational attainment, on average, than individuals who go straight into higher education. These results are in stark contrast to the results found for the younger LSYPE cohort, for whom gap year takers tended to come from more affluent backgrounds and to be no more or less able than those who went straight to university. Like the LSYPE cohort, however, gap year

takers in the BCS cohort are more likely to engage in a range of risky behaviours and to have a more external locus of control than those who go straight into HE.

In terms of the long-term consequences of the decision to delay entry into higher education, this section has shown that gap year takers tend to earn less than those who go straight into higher education, with significantly lower hourly wages and weekly earnings at age 30, and, to a lesser extent, also at ages 34 and 38. Further investigation of these results suggests that much of this gap is driven by differences in the extent and timing of potential labour market experience: gap year takers have fewer years following graduation during which they can reap the returns to their investment in human capital, which matters because it is only post-graduation – and not pre-graduation – labour market experience that appears to be rewarded via higher wages.

In line with the findings of Birch & Miller (2007), gap year takers are also found to be slightly more likely to graduate with a first or second class degree compared to those who go straight to HE, particularly once account is taken of their lower prior attainment.

6   Conclusions

This report has provided the first quantitative evidence on the characteristics and outcomes of gap year takers in the UK. It has used two rich survey datasets: the Longitudinal Study of Young People in England (LSYPE), following a cohort of young people as they make decisions about whether or not to enter higher education (HE) and whether or not to take a gap year at the height of the recent recession, and the British Cohort Study (BCS), following the population of individuals born in Great Britain in a particular week of April 1970, who were first eligible to enter HE in September 1988. These two datasets together enable an assessment of the intentions, activities and characteristics of a recent cohort of gap year takers and the long-term consequences of the decision to delay entry into HE for a range of outcomes, with a particular focus on wages and earnings.

The analysis of the more recent LSYPE cohort showed that there are many different routes into a gap year: over two fifths of gap year takers did not apply to university before sitting their A-levels, and 28% of gap year takers did not express an intention to take a gap year when asked about it in Year 13, suggesting that it is an unexpected decision for these individuals, perhaps in response to poorer than expected exam results.

There is also substantial heterogeneity in the activities undertaken during a gap year, although most gap year takers tend to use their time productively, with over 80% reporting working in Britain at some point during their gap year. Other common activities include travelling and working abroad, especially among young people who intended to take a gap year. These statistics mean that it is relatively unsurprising that only 3.7% of gap year takers are classified as NEET in the LSYPE. Interestingly, the stated reasons for wanting to take a gap year primarily involve gaining independence and taking a break from education, rather than saving money to go to university.

In terms of their characteristics, relative to those who go straight to university, gap year takers in the LSYPE are, on average, more likely to come from higher socio-economic backgrounds and better performing schools, but they also tend to have lower ability beliefs, a more external locus of control and are more likely to engage in risky behaviours such as smoking cannabis. Interestingly, there are no differences between gap year takers and those who go straight to university in terms of their overall prior attainment, although there is some evidence that those who go straight to university are more likely to have studied STEM subjects at AS- and A-level.

In general, the analysis of the LSYPE cohort suggests that there are at least two distinct groups of gap year takers: one plans to take a gap year, applies to and accepts a place at university before they leave school, is more likely to go travelling, has higher ability and comes from a more affluent socio-economic background, and is much more likely to take up their place at university on their return; the other is less likely to have planned

to take a gap year, typically hasn't applied for and accepted a place before they leave school, is more likely to have worked and/or continued in full-time education during their "gap year" and tends to come from a lower socio-economic background (although still significantly higher than the socio-economic background of non-students). These individuals are far less likely to go on to university at the end of their "gap year".

In contrast to the results for the younger LSYPE cohort, gap year takers from the older BCS cohort tend to come from poorer socio-economic backgrounds and have lower educational attainment, on average, than individuals who go straight into higher education. While these results are based on snapshots of two cohorts, this evidence supports a tentative conclusion that the composition of gap year takers may be becoming relatively more affluent over time, perhaps as the decision to take a gap year becomes a more deliberate choice to take time away from education. As was the case for the LSYPE cohort, however, gap year takers in the BCS are more likely to engage in a range of risky behaviours and to have a more external locus of control than those who go straight into higher education, which is an interesting finding.

From a policy perspective it is also interesting to understand what impact taking a gap year may have on these individuals later in life. By age 30, gap year takers tend to earn less than those who go straight into HE, with significantly lower hourly wages and weekly earnings. (These effects are smaller, but still persist, at ages 34 and 38.)

What might be driving these differences? In line with the findings of Birch & Miller (2007), gap year takers are found to be more likely to graduate with a first or second class degree compared to those who go straight into HE, particularly once account is taken of their lower prior attainment. If degree class is rewarded in the labour market, then, on the basis of these results, one might expect gap year takers to earn significantly more than those who go straight into higher education, not less. It should be noted, however, that the estimates of the effect of gap year status on degree class are not significantly different from zero.

Taking a gap year will, by definition, increase the amount of time individuals may spend in the labour market prior to graduation at the expense of time in the labour market after graduation. To the extent that the timing of experience matters, this may well provide an explanation for the differences in wages that are observed. In fact, for the BCS cohort, there is evidence of a strong positive return to a year of experience after graduation, but no return to experience gained prior to graduation. This suggests that gap year takers have significantly lower wages than those who go straight into HE simply because they have fewer years after graduation during which they can reap the returns to their investment in human capital. In fact, these effects on the extent and timing of potential labour market experience are found to be one of the key drivers of the differences between gap year takers and those who go straight to HE in terms of wages and earnings during their 30s.

While not all gap year takers in the LSYPE go on to university, and the decision to take a gap year in the BCS appears to have negative consequences for a range of outcomes observed later in life, this report does not conclude that individuals should necessarily be discouraged from taking a gap year. In fact, the LSYPE results suggest that gap year takers who applied to and accepted a place at university before leaving school are at least as likely to go on to HE as those who applied and accepted a place with the intention of going straight there. It is gap year takers who do not apply to university until after they leave school who are less likely to go on. This may signal that their commitment to higher education was lower in the first place; they also have significantly lower prior attainment than gap year takers who applied to university before leaving school, perhaps suggesting that they do not ultimately meet their university grade offers. In either case, it might be more effective to encourage gap year takers to apply to university earlier than to try to prevent them from taking a gap year altogether, although it must be reiterated that these results are not causal.

In terms of the BCS results, it must be remembered that there are significant differences in terms of both the definition of a gap year and the characteristics of individuals who take a gap year in the LSYPE compared to the BCS, thus raising some questions over the relevance of the conclusions regarding negative longer-term consequences for current cohorts of gap year takers. Moreover, even if these findings were applicable to more recent cohorts, the decision to take time away from education may be beneficial for those who choose to do so in terms of their short- or longer-term wellbeing instead.

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Appendix A: Data Description

Longitudinal Study of Young People in England	
Variable	*Description*
Outcomes	
Gap Year	Binary variable equal to 1 if individual reports being on a gap year in wave 6. Equal to 0 if individual is in university in wave 6.
Gap Year (alternative)	Binary variable equal to 1 if individual is in university in wave 7, but not in university or full time education in wave 6. Equal to 0 if individual is in university in wave 6.
Russell Group University	Binary variable equal to 1 if individual reports going to a university in the "Russell Group". 0 if attends a non-Russell Group university
High Status University	Binary variable equal to 1 if individual reports going to a university in the top 40 according to 2008 Research Assessment Exercise. 0 if attends any other university
Control Variables	
Ethnicity	Discrete variable reported by the main parent in Wave 1 of the survey, where categories are: White, Black Caribbean, Black African, Indian, Pakistani, Bangladeshi, mixed, other, missing. Entered as a set of binary variables in the regression with White as the reference category.
Sex	Binary variable coded to equal 1 if male and 0 if female. If inconsistent across waves, code to be the most frequently reported.
English as Additional Language	Binary variable reported by the main parent in Wave 1 of the survey. Coded to equal 1 if the household speaks a language other than English in the home (including if English is also spoken), and 0 otherwise.
Household Income	Household income (equivalised using OECD-modified scale), averaged across waves 1- 3.
Mother/ Father has Degree	Binary variables (separate for Mother and Father) equal to one if parent has a university degree. Reported by parent in wave 1 of survey.
Grandparent (at least one) has degree	Binary variable equal to 1 if at least one grandparent has a university degree. Reported by parents at wave 1.
Mother's age at birth	Natural mother's age at birth, reported in wave 1 of the survey.
Mother stays at home	Binary variable coded to 1 if Mother's employment status is "stay at home to look after family" (wave 1 of survey). 0 otherwise (if not missing)
Mother married	Binary variable equal to 1 if Mother is married (reported in wave 1)

Number of Dependent Children in Household	Number of dependent children in household, measured at wave 1.
Special Educational Needs	Binary variable coded to 1 if individual has been categorised as having Special Educational Needs by age 17. 0 otherwise.
Region	Categorical variable which gives Government Office Region (reported wave 3). Entered into regression as a series of binary variables, with London as the reference category.
Very likely to apply to university (wave 1)	Binary variable equal to 1 if individual reports that they are "very likely" to apply to university in wave 1.
Very likely to get in to university (wave 1)	Binary variable equal to 1 if individual reports that they are "very likely" to get in to university in wave 1.
Parent thinks child is very likely to apply to university (wave 1)	Binary variable equal to 1 if main parent reports that their child is "very likely" to apply to university in wave 1.
Likes school: "strongly agree" (wave 1)	Binary variable equal to 1 if the individual "strongly agrees" that they like school in wave 1.
Bored at school (wave 1)	Binary variable equal to 1 if the individual reports being "bored at school" in wave 1.
Ability Beliefs (wave 1)	Scale of how much individual believes in their own ability, used as standardised variable with mean 0 and variance 1.
Locus of Control scale (wave 2)	Average of 8 standardised variables that aim to capture the degree to which the individual feels they are in control of their own life. A higher score is associated with being more in control of one's own life.
IDACI score (wave 3)	IDACI score is an index of deprivation in the local "super-output area". The score is standardised with mean 0 and variance 1.
Truant (wave 3)	Binary variable equal to 1 if individual has ever played truant by age 16.
Suspended (wave 3)	Binary variable equal to 1 if individual has ever been suspended from school by age 16.
Vandalised (wave 3)	Binary variable equal to 1 if individual has ever vandalised property by age 16.
Shoplifted (wave 3)	Binary variable equal to 1 if individual has ever shoplifted by age 16.
Been in police trouble (wave 3)	Binary variable equal to 1 if individual has ever been in trouble with police by age 16.
Smoked Cannabis (wave 3)	Binary variable equal to 1 if individual has ever smoked Cannabis by age 16.
Regular Smoker (wave 3)	Binary variable equal to 1 if individual is a regular smoker at age16.
Regular consumption of alcohol (wave 3)	Binary variable equal to 1 if individual regularly consumes alcohol at age16.
Eligible for Free School Meals (age 16)	Individual is eligible for free school meals at age 16, linked from National Pupil Database (NPD).
Has a job in year 12	Binary variable equal to 1 if individual has a

	job of any kind in year 12 (reported by individual in wave 4)
Takes A levels	Binary variable equal to 1 if individual is studying for AS/A levels in year 12 (reported in wave 4).
Receives EMA in year 12	Binary variable equal to 1 if individual receives EMA in year 12 (reported in wave 4)
Friends will mostly go to University (wave 4)	Binary variable equal to 1 if individual "strongly agrees" that most friends will go to university (reported in wave 4)
Key Stage 2 test score	Individual's Key Stage 2 average point score, reported as a standardised variable with mean 0 and variance 1.
GCSE score	Individual's capped GCSE points score, reported as a standardised variable with mean 0 and variance 1.
Took AS levels	A binary variable equal to 1 if took AS levels.
Took A2 levels	A binary variable equal to 1 if took A2 levels.
Average AS level points	Average number of "points" per AS level sat. Entered into probit regression scaled so that regression marginal effects show the effect of moving from under D to A average.
Average A2 level points	Average number of "points" per A2 level sat. Entered into probit regression scaled so that regression marginal effects show the effect of moving from under D to A average.
School level variables:	
Independent School (age 14)	Binary variable equal to 1 if individual attends an independent school in wave 1.
Single Sex School (age 14)	Binary variable equal to 1 if individual attends a single sex school at age 14, linked from NPD.
Class Size at School (age 14)	Average size of class with one teacher at individual's school in 2004 (age 14), linked from NPD.
Free School Meal pupil percentage (age 14)	Percentage of school pupils who are eligible from Free School Meals (2004), linked from NPD.
Percentage of pupils with English at first language (age 14)	Percentage of school pupils who speak English as their first language (2004), linked from NPD.
Value Added at KS4 at school (2004)	Value added score of school, KS2 to KS4, linked from National Pupil Database.
Percentage of pupils with 5 A*-C GCSEs (2004)	Percentage of pupils with 5 A*-C GCSEs in 2004, linked from National Pupil Database.

British Cohort Study	
Variable	*Description*
Treatment	
Gap Year	Binary Variable equal to 1 if cohort member has completed Higher Education (full time) but took a break in education prior to entering HE. Equal to 0 if completed full time HE

	without taking a break prior to entering HE. Uses data from BCS 2000 (age 30).
Outcomes	
Wages at age 30, 34, 38	Real hourly wages, missing if not in employment. Deflated to prices of January 2001 (age 30 wages), January 2006 (age 34) or January 2010 (age 38). Uses data from the BCS 2000, BCS2004 and BCS 2008 respectively.
Employed at ages 30, 34, 38	Binary variable equal to 1 if employed (part or full time) at interview date. Uses data from the BCS 2000, BCS2004 and BCS 2008 respectively.
Employed on graduation	Binary variable equal to 1 if employed in September after receiving last full time HE qualification. Uses BCS Employment Histories.
Percentage of time spent employed	Uses BCS Employment Histories to determine number of months between graduation and BCS 2000 interview, and calculates the number of months during which the cohort member has a job. Creates a percentage from this. Does the same for between 2000 and 2004.
Degree Class	Binary variable equal to 1 if individual was awarded a first or upper second class degree, 0 otherwise.
Malaise index (age 30)	Binary variable equal to 1 if at risk of depression. This is derived from the "Malaise Inventory"; person is at risk if they score 8 or more out of 24 on the scale.
Mental Health Scale (age 34)	Mean of 4 standardised variables which capture different aspects of poor mental health Higher the score, the worse mental health
Mental Health Scale (long term) (Age 34)	Mean of 8 standardised variables, which are a subset of questions asked in the Malaise index. A higher score represents worse mental health.
Alcohol Abuse (age 30, 34)	Binary variable equal to 1 if at risk of alcohol problems. Derived from the "CAGE" scale.
Smoking (age 30,34,38)	Number of cigarettes per day. Also binary variable equal to 1 if smokes at all.
Relationship status (age 30, 34 and 38)	Binary variables for being a) married, b) "ever married" (married plus divorced, separated, or widowed) c) Cohabiting or d) living alone, never married.
Controls	
Post graduation experience at age 30, 34	Number of years in employment between the September after graduation and the interview data.
Pre graduation experience	Number of years in employment (total) between January 1986 and graduating from an tertiary education institution for the last time
Sex	Binary variable equal to 1 if male and 0 if

	female.
Non-white	Binary variable equal to 1 if ethnicity is not white, 0 if ethnicity is white, reported at age 5.
Number of siblings	Number of siblings, reported at age 16.
Region	Government Office Region (London included in "South East", reported at age 10. Included as dummy variables, with "South East" as reference category in regressions.
Age mother left education	Dummy variables for each of the following categories: 14 and under, 15, 16, 17-18, 19-22 and over 22. Reference category 14 and under. Measured at age 16.
Age father left education	Dummy variables for each of the following categories: 14 and under, 15, 16, 17-18, 19-22 and over 22. Reference category 14 and under. Measured at age 16.
Father's Social Class	Dummy variables for each of the following categories: i) Professional, ii) Managerial iii a) Skilled (non-manual) iii b) Skilled (manual) iv) Partly Skilled and v) Unskilled. Reference category is Professional. Measured at age 16.
Parents' Income Group	Combined parent's income . Dummy variables for each of 5 income groups, roughly corresponding to quintiles. Reference category is the lowest income group. Measured at age 16.
Housing Tenure: Owned House	Binary variable equal to 1 if parents own their home, either outright or with a mortgage.
Mother married at birth	Binary variable equal to1 if mother was married at birth. Measured at birth.
Parent's expect children to continue at school beyond age 16 (reported at age 10)	Binary variable equal to 1 if parents expect children to leave school after the age of 16. Reported at age 10.
Parent's expect children to go to university (reported at age 10)	Binary variable equal to 1 if parents expect children to go to university. Reported at age 10.
Father interested in child's education	Binary variable equal to 1 if teacher reports that father is very interested in child's education. Measured at age 10.
Mother interested in child's education	Binary variable equal to 1 if teacher reports that mother is very interested in child's education. Measured at age 10.
British Ability Scale (age 10)	Score on British Ability Scale, following tests at age 10. Is an average of four standardised test scores.
Cognitive Tests (age 10)	Child takes multiple cognitive tests at age 10, including spelling, writing, maths, reading, vocabulary tests. Scores on these tests are all standardised and an average is taken. Quintiles are then created, with the bottom quintile as the reference group in regressions.
Cognitive Tests (age 5)	Child takes tests of copying, drawing a human

	figure and vocabulary.
Number of O levels (at grades 1-6)	Number of O levels individual has at grades 1-6 (pass). Measured at age 30.
Number of CSEs	Number of CSEs individual has. Measured at age 30.
Number of A levels passed by 1988	Number of A levels passed by 1988 (Age 18). Measured at age 30.
Child bullied others (age 10)	Reported by parent at age 10. Standardised scale to mean 0, variance 1. Higher score indicates higher extent of bullying.
Rutter Scale (age 5, 10, 16)	Responses to questions on child's behaviour creates the Rutter Scale, which has three outcomes: Normal, moderate problems and sever problems. Entered into regressions as dummy variables with "normal" as reference group.
Self Esteem Scale (age 10, 16)	Child's responses to 12 questions on self esteem. Added together to form the LAWSEQ scale, which are standardised to have a mean 1 and variance 0. Higher score indicates higher self esteem.
Self-perceived ability (age 10,16)	Child's responses to 8 questions on self perceived ability are converted into a score and standardised. Higher score indicates higher self-perceived ability.
Locus of Control scale (age 10,16)	8 variables that aim to capture the degree to which the individual feels they are in control of their own life. A higher score is associated with being more in control of one's own life.
Positive activities score (age 10)	14 variables capture the number of positive activities that the cohort member undertakes. The percentage of these positive activities that the individual does is calculated and then standardised.
"Does not like school" (age 16)	Binary variable equal to 1 if the individual says says it is partly or very true that they dislike school.
Takes school seriously (age 16)	Standardised score derived from 6 questions on how they value school/ how seriously they take school.
Plans to stay in education post 18 (age 16)	Binary variable equal to 1 if at age 16, cohort member plans to stay in education post 18.
Has taken Cannabis by age 16	Binary variable equal to 1 if individual has tried cannabis by age 16.
Smokes (age 16)	Binary variable equal to 1 if individual smokes at least one cigarette a week at age 16.
Anti-social behaviour score (age 16)	Standardised score derived from 26 questions relating to antisocial behaviour
Alcohol consumption (age 16)	Binary variable equal to 1 if individual has drunk at least once a week in the past year (age 16)
Drug abuse (age 16)	Binary variable equal to 1 if individual reports past or current use of drugs (age 16)
Truant (age 10 or 16)	Binary variable equal to 1 if individual has

Suspended (age 16)	played truant in the last year. Binary variable equal to 1 if individual has ever been suspended from school by age 16.

Appendix B: Characteristics of Gap Year Takers in LSYPE

Table B1: Raw differences between gap year takers and other groups

Characteristic	Took Gap Year	Straight to higher education	Difference to student		Non-student	Difference to non-student
Individual and Family Characteristics						
Sex	0.463	0.44	0.023		0.523	-0.060**
Ever had special educational needs by age 17	0.121	0.107	0.013		0.302	-0.181***
White	0.861	0.818	0.043**		0.869	-0.008
Black Caribbean	0.012	0.009	0.003		0.012	0
Black African	0.01	0.022	-0.012*		0.013	-0.002
Indian	0.022	0.047	-0.025***		0.016	0.006
Pakistani	0.015	0.024	-0.01		0.023	-0.008
Bangladeshi	0.004	0.012	-0.008*		0.009	-0.005
Mixed	0.042	0.025	0.016*		0.025	0.016*
Other	0.026	0.03	-0.004		0.017	0.009
English additional language	0.028	0.062	-0.034***		0.047	-0.019**
IDACI deprivation index (std)	-0.301	-0.308	0.007		0.162	-0.462***
Mother has degree	0.289	0.203	0.085***		0.064	0.225***
Father has degree	0.3	0.261	0.039*		0.074	0.226***
At least one grandparent has degree	0.218	0.188	0.031		0.082	0.136***
Average household equivalised income 2004-06	30627	28372	2255*		18476	12151***
Natural mother's age at birth	29.919	29.213	0.707**		27.107	2.812***
Mother look after family in wave 1	0.178	0.178	0		0.269	-0.091***
Mother Married and Living with Husband	0.784	0.818	-0.034		0.646	0.138***
Number of Dependent Children in Household	2.233	2.17	0.062		2.296	-0.064
North East	0.039	0.05	-0.011		0.054	-0.015
North West	0.101	0.155	-0.054***		0.146	-0.046***
Yorkshire and Humber	0.05	0.101	-0.051***		0.112	-0.062***
East Midlands	0.065	0.089	-0.024*		0.097	-0.032**
West Midlands	0.12	0.114	0.006		0.114	0.005
East of England	0.123	0.096	0.027*		0.112	0.011
South East	0.207	0.142	0.065***		0.144	0.063***
London	0.152	0.163	-0.011		0.099	0.052***
South West	0.137	0.077	0.059***		0.105	0.032*

Anti social activities and risky behaviours					
Ever Played Truant wave3	0.208	0.136	0.072***	0.318	-0.110***
Ever Suspended wave3	0.015	0.01	0.005	0.095	-0.080***
Ever Vandalised wave3	0.048	0.028	0.020*	0.094	-0.046***
Ever Shoplifted wave3	0.066	0.029	0.037***	0.084	-0.018
Ever Police Trouble wave3	0.026	0.012	0.013*	0.089	-0.063***
Ever smoked Cannabis wave3	0.294	0.173	0.121***	0.308	-0.013
Regular Alcohol wave3	0.156	0.142	0.013	0.207	-0.051***
Regular Smoker wave3	0.039	0.028	0.01	0.19	-0.151***
Attitudes to future and education					
Very likely to apply to university: wave 1	0.558	0.567	-0.009	0.209	0.349***
Very likely to get in to university: wave 1	0.304	0.313	-0.009	0.124	0.179***
Parent: Very likely to apply to university: wave 4	0.607	0.616	-0.008	0.195	0.412***
Strongly agree likes school: wave 1	0.317	0.326	-0.009	0.229	0.088***
Bored in Lessons w1	0.342	0.316	0.026	0.499	-0.156***
Ability beliefs wave 1 (Std)	0.249	0.423	-0.174***	-0.205	0.455***
Locus of control in wave 2 (std)	0.1	0.155	-0.055*	-0.091	0.191***
Eligibility for FSM at age 16	0.047	0.064	-0.017	0.167	-0.121***
Paid Employment of any kind in wave 4	0.504	0.505	-0.002	0.422	0.082***
Taking A/AS levels in wave 4	0.919	0.909	0.011	0.467	0.453***
Claims EMA in wave 4	0.29	0.33	-0.040*	0.417	-0.127***
Friends will mostly go to University: Strong Agree	0.37	0.389	-0.019	0.105	0.265***
School level variables					
Single- sex school at age 14	0.207	0.183	0.025	0.086	0.121***
Average size of one teacher class	21.909	21.839	0.07	22.116	-0.207*
School: % of pupils eligible for FSM	8.4	10.231	-1.830***	15.928	-7.528***
School: % of pupils with English as first language	73.871	77.517	-3.647*	88.806	-14.936 ***
Value added score of school- KS2-4	1002.37	998.978	3.393**	983.538	18.833 ***
School: 5 a*-c grades %	76.1	74.144	1.956	55.293	20.807 ***
Independent school at age 14	0.192	0.135	0.058***	0.026	0.167***
Academic Performance in School					
capped GCSE score (std)	0.778	0.777	0.001	-0.413	1.191***
KS2 score (std)	0.67	0.637	0.033	-0.331	1.001***

Num of A-A*s at GCSEs	4.211	4.206	0.005	0.482	3.729***
Num of A*-Cs at GCSEs	9.517	9.556	-0.039	4.118	5.399***
Took A2 levels	0.881	0.872	0.009	0.356	0.525***
Took AS levels	0.872	0.847	0.025	0.616	0.256***
AS points	374.085	368.199	5.887	237.985	136.101 ***
AS points per subject taken	105.089	105.412	-0.323	74.939	30.149 ***
Number A-C AS level	2.449	2.445	0.004	1.128	1.321***
Number A AS level	0.858	0.908	-0.049	0.172	0.686***
No of STEM at AS	0.851	0.996	-0.145**	0.571	0.280***
No of U Cambridge approved subjects AS level	2.472	2.445	0.027	1.849	0.623***
Number of points in AS level Cambridge approved	280.368	284.607	-4.239	170.062	110.306 ***
Average no of points AS level in Cambridge approved subjects	104.513	105.6	-1.087	75.524	28.989 ***
A2 points	667.369	665.721	1.648	430.069	237.299 ***
A2 points per subject taken	226.909	225.92	0.989	186.567	40.342 ***
Number A-C A2 level	2.394	2.378	0.016	1.223	1.171***
Number A A2 level	0.908	0.964	-0.056	0.2	0.708***
No of STEM at A2	0.693	0.886	-0.193***	0.309	0.384***
No of U Cambridge approved subjects A2	2.143	2.193	-0.05	1.355	0.788***
Number of points in A2 level Cambridge approved	527.455	540.815	-13.36	327.186	200.269 ***
Average no of points A2 level in Cambridge approved subjects	227.413	226.518	0.895	187.236	40.177 ***
Number of Observations	***663***	***3,306***	***N/A***	***5,830***	***N/A***

*** means the effect is significantly different from zero at the 0.1% level, ** at the 1% level, * at the 5% level. Column 1 shows the average characteristics of gap year takers, Column 2 shows the average characteristics of those who go straight to university students and Column 3 shows the difference between the two. Column 4 shows the average for non-gap year takers and non-students in Wave 6 of the LSYPE and Column 5 shows the difference between gap year takers and "non-students".

Table B2: Raw differences between "Intended" gap year takers and "Not-intended" gap year takers

Characteristic	Intended	Not-Intended	Difference
Individual and Family Characteristics			
Sex	0.474	0.437	0.037
Ever had Special Needs by age 17	0.119	0.124	-0.005
White	0.875	0.827	0.047
Black Caribbean	0.013	0.011	0.002
Black African	0.006	0.022	-0.016
Indian	0.019	0.03	-0.011
Pakistani	0.01	0.026	-0.015
Bangladeshi	0.004	0.006	-0.003
Mixed	0.045	0.034	0.011
Other	0.022	0.034	-0.012
English additional language	0.016	0.055	-0.039**
IDACI deprivation index (std)	-0.351	-0.18	-0.171**
Mother has degree	0.329	0.194	0.135***
Father has degree	0.321	0.251	0.070*
At least one grandparent has degree	0.252	0.139	0.113***
Average household equivalised income 2004-06	£32,222	£26,820	£5,400***
Natural mother's age at birth	30.336	28.917	1.420***
Mother look after family in wave 1	0.187	0.156	0.031
Mother Married and Living with Husband	0.77	0.817	-0.047
Number of Dependent Children in Household	2.206	2.296	-0.09
North East	0.028	0.067	-0.039**
North West	0.098	0.107	-0.009
Yorkshire and Humber	0.047	0.059	-0.013
East Midlands	0.052	0.096	-0.044*
West Midlands	0.124	0.11	0.014
East of England	0.13	0.107	0.023
South East	0.223	0.171	0.051
London	0.162	0.128	0.033
South West	0.133	0.144	-0.011
Anti social activities and risky behaviours			
Ever Played Truant wave3	0.206	0.213	-0.007
Ever Suspended wave3	0.013	0.02	-0.007
Ever Vandalised wave3	0.052	0.039	0.013
Ever Shoplifted wave3	0.075	0.043	0.032*
Ever Police Trouble wave3	0.026	0.023	0.003
Ever smoked Cannabis wave3	0.31	0.258	0.051

Regular Alcohol wave3	0.159	0.147	0.013
Regular Smoker wave3	0.034	0.049	-0.015
Attitudes to future and education			
Very likely to apply to university: wave 1	0.573	0.524	0.049
Very likely to get in to university: wave 1	0.333	0.233	0.100***
Parent: Very likely to apply to university: wave 4	0.631	0.548	0.083**
Strongly agree likes school: wave 1	0.324	0.3	0.024
Bored in Lessons w1	0.327	0.379	-0.053
Ability beliefs wave 1 (Std)	0.262	0.22	0.042
Locus of control in wave 2 (std)	0.099	0.102	-0.003
Eligibility for FSM at age 16	0.039	0.062	-0.024
Paid Employment of any kind in wave 4	0.504	0.502	0.002
Taking A levels/AS in wave 4	0.931	0.892	0.039
Claims EMA in wave 4	0.256	0.37	-0.114***
Friends will mostly go to University: Strong Agree	0.376	0.355	0.021
School level variables			
Single- sex school at age 14	0.232	0.15	0.081***
Average size of one teacher class	22.032	21.663	0.370**
School: % of pupils eligible for FSM	7.394	10.807	-3.414***
School: % of pupils with English as first language	70.063	82.974	-12.911***
Value added score of school- KS2-4	1004.71	997.071	7.636***
School: 5 a*-c grades %	77.965	70.527	7.438**
Independent school at age 14	0.237	0.086	0.151***
Academic Performance in School			
capped GCSE score (std)	0.839	0.633	0.206***
KS2 score (std)	0.74	0.514	0.226***
Num of A-A*s at GCSEs	4.611	3.261	1.350***
Num of A*-Cs at GCSEs	9.666	9.165	0.501**
Took A2 levels	0.907	0.822	0.085***
Took AS levels	0.877	0.861	0.016
AS points	383.859	351.056	32.803**
AS points per subject taken	106.574	101.59	4.984**
Number A-C AS level	2.574	2.155	0.418***
Number of A at AS level	0.958	0.624	0.333***
No of STEM at AS	0.854	0.843	0.011
No of U Cambridge approved subjects AS level	2.529	2.338	0.191
Number of points in AS level Cambridge approved	292.738	251.304	41.434***
Average no of points AS level in Cambridge approved subjects	107.072	98.501	8.572***
A2 points	687.665	615.537	72.128***
A2 points per subject taken	230.7	217.226	13.474***
Number A-C A2 level	2.495	2.135	0.360***

Number A at A2 level	1.005	0.661	0.344***
No of STEM at A2	0.7	0.675	0.025
No of U Cambridge approved subjects A2	2.22	1.946	0.274***
Number of points in A2 level Cambridge approved	553.4	461.028	92.372***
Average no of points A2 level in Cambridge approved subjects	231.562	216.791	14.770***
Number of Observations	***441***	***222***	***N/A***

*** means the effect is significantly different from zero at the 0.1% level, ** at the 1% level, * at the 5% level. Column 1 shows the average characteristics of gap year takers who intended to take a gap year, Column 2 shows the average characteristics of gap year takers who did not intend to take a gap year and Column 3 shows the difference between these two groups.

Table B3: Characteristics of gap year takers who did and did not accept a place at university before the end of Year 13

Characteristic	Already accepted	Not accepted	Difference
Sex	0.464	0.456	0.008
Ever had Special Needs by age 17	0.117	0.128	-0.011
Black Caribbean	0.014	0.011	0.004
Black African	0.015	0.006	0.008
Indian	0.016	0.029	-0.014
Pakistani	0.016	0.015	0.001
Bangladeshi	0.003	0.006	-0.002
Mixed	0.05	0.033	0.017
Other	0.031	0.02	0.011
English additional langauge	0.03	0.017	0.013
IDACI deprivation index (std)	-0.34	-0.261	-0.079
Mother has degree	0.31	0.259	0.051
Father has degree	0.324	0.263	0.062
At least one grandparent has degree	0.233	0.201	0.032
Log of Average household equivalised income 2004-06	10.178	9.993	0.185*
Natural mother's age at birth	28.666	28.582	0.084
Mother look after family in wave 1	0.108	0.176	-0.069*
Mother Married and Living with Husband	0.717	0.74	-0.023
Number of Dependent Children in Household	2.189	2.189	0
capped GCSE score (std)	0.846	0.685	0.161***
KS2 score (std)	0.655	0.423	0.232***
North East	0.025	0.053	-0.028***
North West	0.088	0.107	-0.019
Yorkshire and Humber	0.063	0.04	0.023
East Midlands	0.078	0.053	0.024
West Midlands	0.088	0.155	-0.067**
East of England	0.121	0.124	-0.003
South East	0.278	0.143	0.136***
South West	0.103	0.165	-0.062*
Ever Played Truant w3	0.16	0.158	0.002

Ever Suspendedw3	-0.024	-0.031	0.007
Ever Vandalised w3	0.029	0.006	0.024
Ever Shoplifted w3	0.052	0.032	0.02
Ever Police Trouble w3	-0.02	-0.023	0.003
Ever smoked Cannabis w3	0.247	0.266	-0.019
Regular Alcohol w3	0.118	0.133	-0.014
Regular Smoker w3	0.006	0.014	-0.008
Very likely to apply to university: wave 1	0.565	0.424	0.141**
Very likely to get in to university: wave 1	0.209	0.17	0.039
Parent: Very likely to apply to university: wave 4	0.6	0.438	0.161***
Strongly agree likes school: wave 1	0.262	0.267	-0.005
Bored in Lessons w1	0.257	0.242	0.014
Ability beliefs wave 1 (Std)	0.248	0.166	0.081
Locus of control in wave 2 (std)	0.078	0.05	0.028
Single- sex school at age 14	0.215	0.203	0.012
Average size of one teacher class	17.67	17.352	0.318
School: % of pupils eligible for FSM	7.63	9.164	-1.534
School: % of pupils with English as FIRST language	75.026	72.731	2.295
Value added score of school- KS2-4	927.95	928.958	-1.008
School: 5 a*-c grades %	36.775	33.746	3.03
Independent school at age 14	0.178	0.188	-0.01
Eligibility for FSM at age 16	-0.154	-0.16	0.007
Paid Employment of any kind in wave 4	0.513	0.44	0.073
Taking Alevels/AS in wave 4	0.922	0.792	0.130***
Claims EMA in wave 4	0.243	0.292	-0.05
Friends will mostly go to University: Strong Agree	0.341	0.278	0.064
A2 points	5.397	4.75	0.647*
AS points	6.016	5.284	0.732*
Took AS levels	0.691	0.664	0.027
Tooks A2 levels	0.728	0.643	0.085
A2 points per subject taken	1.734	1.439	0.296**
AS points per subject taken	1.505	1.349	0.156
Number A-C AS level	1.922	1.486	0.436**
Number A AS level	0.588	0.332	0.255*
Number A-C A2 level	1.836	1.537	0.299*
Number A A2 level	0.622	0.403	0.219*
Number of observations	***337***	***313***	***N/A***

*** means the effect is significantly different from zero at the 0.1% level, ** at the 1% level, * at the 5% level. Column 1 shows the characteristics of gap year takers who accepted a place at university in year 13. Column 2 shows the average characteristics of gap year takers who did not. Column 3 shows the difference between the two.

Table B4: Estimated associations between background characteristics and taking a gap year

Restriction:	Overall	Male	Female		Intention	No Intention
Sex	0.014 [0.015]				0.012 [0.013]	0.003 [0.010]
Ever had Special Educational Needs by age 17	-0.011 [0.022]	-0.009 [0.029]	-0.025 [0.035]		-0.008 [0.020]	-0.003 [0.016]
Black Caribbean	0.027 [0.054]	0.04 [0.079]	0.002 [0.062]		0.038 [0.051]	-0.008 [0.028]
Black African	-0.097* [0.047]	0.008 [0.064]	-0.162** [0.062]		-0.111* [0.048]	-0.005 [0.029]
Indian	-0.087* [0.042]	-0.055 [0.062]	-0.117** [0.045]		-0.07 [0.041]	-0.022 [0.024]
Pakistani	-0.038 [0.041]	0.087 [0.062]	-0.107* [0.052]		-0.044 [0.043]	0.008 [0.025]
Bangladeshi	-0.140** [0.051]	-0.059 [0.080]	-0.178** [0.068]		-0.10 [0.051]	-0.052 [0.034]
Mixed	0.04 [0.036]	0.107* [0.052]	-0.009 [0.045]		0.034 [0.032]	0.014 [0.025]
Other	-0.021 [0.053]	0.096 [0.080]	-0.148* [0.062]		-0.033 [0.054]	0.015 [0.029]
English additional language	-0.05 [0.035]	-0.124* [0.049]	-0.025 [0.045]		-0.064 [0.036]	-0.004 [0.020]
IDACI deprivation index (std)	0.028** [0.011]	0.008 [0.016]	0.045** [0.015]		0.019 [0.010]	0.014* [0.006]
Mother has degree	0.047* [0.021]	0.050* [0.025]	0.044 [0.028]		0.044* [0.019]	0.003 [0.013]
Father has degree	-0.001 [0.018]	-0.001 [0.024]	-0.007 [0.025]		-0.003 [0.016]	0.006 [0.013]
At least one grandparent has degree	-0.005 [0.020]	-0.019 [0.030]	0.001 [0.026]		0.009 [0.018]	-0.022 [0.014]
Log of Average household equivalised income 2004-06	0.003 [0.016]	0.017 [0.023]	-0.006 [0.021]		-0.002 [0.014]	0.006 [0.010]
Natural mother's age at birth	0.003 [0.001]	0.009** [0.002]	-0.002 [0.002]		0.003* [0.001]	0.00 [0.001]
Mother look after family in wave 1	0.012 [0.020]	0.00 [0.026]	0.015 [0.028]		0.024 [0.018]	-0.016 [0.014]
Mother Married and Living with Husband	-0.035 [0.020]	-0.046 [0.031]	-0.026 [0.024]		-0.045* [0.018]	0.007 [0.013]
Number of Dependent Children in Household	0.016* [0.007]	0.038** [0.011]	0.002 [0.010]		0.013* [0.006]	0.007 [0.005]
North East	0.011 [0.040]	-0.027 [0.067]	0.00 [0.050]		-0.009 [0.042]	0.02 [0.024]
North West	-0.049 [0.032]	0.029 [0.038]	-0.108* [0.045]		-0.041 [0.029]	-0.015 [0.019]
Yorkshire and Humber	-0.074 [0.043]	0.002 [0.048]	-0.128* [0.060]		-0.056 [0.042]	-0.037 [0.021]
East Midlands	-0.009 [0.035]	0.02 [0.045]	-0.026 [0.049]		-0.028 [0.032]	0.012 [0.021]

West Midlands	0.027 [0.032]	0.083* [0.039]	-0.018 [0.046]		0.024 [0.029]	-0.004 [0.019]
East of England	0.063 [0.033]	0.091* [0.044]	0.045 [0.041]		0.054 [0.029]	0.017 [0.019]
South East	0.066* [0.030]	0.133** [0.039]	0.031 [0.039]		0.05 [0.026]	0.028 [0.018]
South West	0.107** [0.033]	0.179** [0.051]	0.07 [0.046]		0.082** [0.030]	0.047* [0.019]
Ever Played Truant w3	0.039 [0.020]	0.00 [0.029]	0.056* [0.026]		0.032 [0.019]	0.019 [0.014]
Ever Suspended w3	0.003 [0.066]	-0.082 [0.075]	0.075 [0.096]		-0.012 [0.068]	0.014 [0.037]
Ever Vandalised w3	-0.001 [0.039]	0.019 [0.054]	0.042 [0.058]		-0.006 [0.034]	0.005 [0.028]
Ever Shoplifted w3	0.094** [0.035]	0.044 [0.053]	0.113** [0.043]		0.098** [0.030]	-0.001 [0.024]
Ever Police Trouble w3	0.079 [0.054]	0.059 [0.072]	0.105 [0.076]		0.073 [0.047]	0.02 [0.034]
Ever smoked Cannabis w3	0.078** [0.019]	0.098** [0.027]	0.054* [0.025]		0.066** [0.016]	0.026* [0.013]
Regular Alcohol w3	-0.045* [0.021]	-0.054 [0.028]	-0.047 [0.029]		-0.041* [0.019]	-0.006 [0.014]
Regular Smoker w3	-0.042 [0.041]	-0.053 [0.075]	-0.01 [0.048]		-0.043 [0.040]	-0.003 [0.027]
Very likely to apply to university: wave 1	-0.003 [0.017]	-0.01 [0.026]	0.009 [0.022]		-0.007 [0.016]	0.008 [0.012]
Very likely to get in to university: wave 1	0.017 [0.018]	-0.002 [0.025]	0.038 [0.023]		0.023 [0.017]	-0.012 [0.012]
Parent: Very likely to apply to university: wave 4	-0.007 [0.018]	-0.003 [0.025]	-0.01 [0.022]		-0.004 [0.016]	-0.005 [0.011]
Strongly agree likes school: wave 1	0.007 [0.016]	0.00 [0.025]	0.009 [0.021]		0.012 [0.014]	0.00 [0.011]
Bored in Lessons w1	-0.009 [0.017]	-0.025 [0.024]	0.007 [0.021]		-0.018 [0.015]	0.008 [0.010]
Ability beliefs wave 1 (Std)	-0.025* [0.010]	-0.018 [0.015]	-0.032* [0.013]		-0.021* [0.009]	-0.009 [0.006]
Locus of control in wave 2 (std)	-0.006 [0.015]	-0.025 [0.023]	0.008 [0.019]		-0.005 [0.014]	0.001 [0.009]
Eligibility for FSM at age 16	0.01 [0.021]	0.033 [0.024]	0.008 [0.033]		0.016 [0.019]	-0.011 [0.014]
Paid Employment of any kind in wave 4	0.004 [0.004]	0.011* [0.005]	-0.001 [0.005]		0.007 [0.004]	-0.002 [0.002]
Taking A-levels in wave 4	-0.001 [0.001]	-0.001 [0.002]	-0.002 [0.002]		-0.002 [0.001]	0.00 [0.001]
Claims EMA in wave 4	0.00 [0.001]	-0.002 [0.001]	0.00 [0.001]		0.00 [0.001]	0.00 [0.000]
Friends will mostly go to University: Strong Agree	0.00 [0.000]	0.001 [0.001]	0.00 [0.001]		0.00 [0.000]	0.00 [0.000]
Single- sex school at age 14	-0.001 [0.001]	-0.001 [0.001]	-0.002 [0.001]		-0.001 [0.001]	0.00 [0.000]
Average size of one teacher	0.051	-0.05	0.168		0.007	0.031

class	[0.140]	[0.227]	[0.115]		[0.110]	[0.069]
School: % of pupils eligible for FSM	-0.035 [0.034]	-0.022 [0.053]	-0.028 [0.046]		-0.031 [0.034]	-0.006 [0.021]
School: % of pupils with English as first language	-0.014 [0.015]	0.01 [0.022]	-0.035 [0.018]		-0.005 [0.013]	-0.012 [0.010]
Value added score of school-KS2-4	0.015 [0.035]	0.094 [0.052]	-0.029 [0.042]		0.008 [0.033]	0.006 [0.021]
School: 5 a*-c grades %	-0.017 [0.020]	0.018 [0.031]	-0.046 [0.025]		-0.025 [0.019]	0.006 [0.012]
Independent school at age 14	-0.009 [0.015]	-0.022 [0.024]	-0.007 [0.020]		-0.017 [0.014]	0.007 [0.010]
capped GCSE score (std)	-0.009 [0.024]	-0.134** [0.035]	0.094** [0.031]		0.011 [0.023]	-0.03 [0.016]
KS2 score (std)	0.009 [0.016]	0.034 [0.022]	-0.013 [0.020]		0.013 [0.015]	0.002 [0.009]
Took A2 levels	-0.008 [0.093]	-0.093 [0.121]	0.095 [0.141]		-0.059 [0.083]	0.048 [0.063]
Took AS levels	0.084 [0.066]	0.034 [0.086]	0.114 [0.098]		0.121* [0.060]	-0.012 [0.043]
A2 points per subject taken	-0.01 [0.029]	0.013 [0.039]	-0.033 [0.043]		0.018 [0.025]	-0.028 [0.020]
AS points per subject taken	-0.014 [0.021]	-0.002 [0.030]	-0.026 [0.030]		-0.036 [0.019]	0.02 [0.015]
Number of Observations	3,969	1,761	2,208		3,747	3,528

** means the effect is significantly different from zero at the 1% level, * at the 5% level. Estimation is by Maximum likelihood of a probit model with the dependent variable equal to 1 if the individual took a gap year and 0 if they went straight to university. Average marginal effects are reported. Standard errors are clustered at school level and are robust to heteroscedasticity. Column 1 presents the overall results; Columns 2 and 3 consider males and female respectively; Columns 4 and 5 consider those who did and did not intend to take a gap year. The omitted categories for region and ethnicity are "London" and "white" respectively.

Table B5: Characteristics of gap year takers who do and do not go on to higher education

Characteristic	Gap year taker went on to HE at age 19	Gap year taker did not go on to HE at age 19	Difference
Sex	0.474	0.477	-0.004
Ever had Special Needs by age 17	0.118	0.157	-0.039
Black Caribbean	0.011	0.027	-0.016
Black African	0.01	0.014	-0.004
Indian	0.025	0.019	0.006
Pakistani	0.014	0.017	-0.003
Bangladeshi	0.004	0.005	-0.001
Mixed	0.036	0.032	0.004
Other	0.029	0.013	0.016
English additional language	0.022	0.024	-0.003
IDACI deprivation index (std)	-0.321	-0.23	-0.091
Mother has degree	0.305	0.184	0.122*
Father has degree	0.321	0.117	0.204***
At least one grandparent has degree	0.225	0.195	0.031

Log of Average household equivalised income 2004-06	10.122	9.863	0.259
Natural mother's age at birth	28.807	27.859	0.947
Mother look after family in wave 1	0.125	0.175	-0.049
Mother Married and Living with Husband	0.737	0.812	-0.074
Number of Dependent Children in Household	2.194	2.254	-0.061
capped GCSE score (std)	0.835	0.424	0.411***
KS2 score (std)	0.607	0.265	0.343***
North East	0.026	0.084	-0.058***
North West	0.099	0.087	0.012
Yorkshire and Humber	0.045	0.102	-0.056
East Midlands	0.069	0.039	0.03
West Midlands	0.127	0.119	0.008
East of England	0.13	0.09	0.039
South East	0.192	0.262	-0.07
South West	0.142	0.105	0.038
Ever Played Truant w3	0.156	0.138	0.018
Ever Suspendedw3	-0.026	-0.033	0.007
Ever Vandalised w3	0.005	0.004	0.001
Ever Shoplifted w3	0.041	0.025	0.016
Ever Police Trouble w3	-0.025	-0.009	-0.016
Ever smoked Cannabis w3	0.245	0.274	-0.029
Regular Alcohol w3	0.112	0.158	-0.046
Regular Smoker w3	0.005	0.035	-0.03
Very likely to apply to university: wave 1	0.52	0.387	0.132*
Very likely to get in to university: wave 1	0.226	0.066	0.159*
Parent: Very likely to apply to university: wave 4	0.555	0.276	0.279***
Strongly agree likes school: wave 1	0.281	0.18	0.101***
Bored in Lessons w1	0.243	0.314	-0.07
Ability beliefs wave 1 (Std)	0.252	-0.001	0.254*
Locus of control in wave 2 (std)	0.091	-0.037	0.128*
Single- sex school at age 14	0.225	0.112	0.113**
Average size of one teacher class	17.378	17.658	-0.281
School: % of pupils eligible for FSM	7.76	10.5	-2.74
School: % of pupils with English as FIRST language	73.072	76.266	-3.194
Value added score of school- KS2-4	931.102	943.98	-12.877
School: 5 a*-c grades %	36.807	27.77	9.037*
Independent school at age 14	0.189	0.146	0.043
Eligibility for FSM at age 16	-0.163	-0.16	-0.004
Paid Employment of any kind in wave 4	0.466	0.467	0
Taking Alevels/AS in wave 4	0.872	0.773	0.099
Claims EMA in wave 4	0.247	0.336	-0.089
Friends will mostly go to University:	0.316	0.296	0.02

Strong Agree			
A2 points	5.938	3.201	2.738***
AS points	6.488	4.245	2.243***
Took AS levels	0.855	0.578	0.277***
Tooks A2 levels	0.877	0.499	0.378***
A2 points per subject taken	1.943	0.869	1.074***
AS points per subject taken	1.729	0.976	0.753***
Number A-C AS level	2.08	0.917	1.163***
Number A AS level	0.665	-0.004	0.669***
Number A-C A2 level	2.07	0.849	1.221***
Number A A2 level	0.752	-0.122	0.874***
Number of observations	*530*	*85*	*N/A*

*** means the effect is significantly different from zero at the 0.1% level, ** at the 1% level, * at the 5% level. Column 1 shows the characteristics of gap year takers who went on to HE at age 19, Column 2 shows the average characteristics of gap year takers who did not go on to HE at age 19. Column 3 shows the difference between the two.

Appendix C: Characteristics of Gap Year Takers in BCS

Table C1: Raw difference between gap year takers and other groups

Characteristic	Took Gap Year	Straight to tertiary education	Difference to student		Non-student	Difference to non-student
Prior Educational Background:						
Num of O levels at grades 1-6	6.817	7.358	-0.542**		4.317	2.499***
Num of CSEs	3.120	2.735	0.385		4.122	-1.002***
Num of A levels by age 18	1.171	1.571	-0.401***		0.176	0.995***
Behaviours and attitudes:						
No behavioural problems at 5	0.886	0.870	0.016		0.798	0.087***
Moderate behavioural problems at 5	0.100	0.109	-0.009		0.153	-0.053**
Severe behavioural problems at 5	0.015	0.021	-0.006		0.049	-0.035***
No behavioural problems at 10	0.880	0.878	0.002		0.788	0.091***
Moderate behavioural problems at 10	0.093	0.107	-0.015		0.157	-0.065***
Severe behavioural problems at 10	0.027	0.014	0.013		0.054	-0.027**
Self Esteem at 10 (std)	0.211	0.292	-0.081		-0.038	0.248***
Locus of Control at 10 (std)	0.404	0.494	-0.090		-0.065	0.470***
Self perceived ability at 10 (std)	0.226	0.209	0.018		-0.029	0.255***
Extent that child bullied others at 10 (std)	0.208	0.128	0.081		-0.020	0.228***
Positive activities score at 10 (std)	0.055	0.194	-0.139*		-0.024	0.079
No behavioural problems at 10	0.874	0.880	-0.006		0.806	0.067**
Moderate behavioural problems at 10	0.093	0.105	-0.011		0.141	-0.048*
Severe behavioural problems at 10	0.033	0.015	0.018		0.052	-0.020
Std self-esteem score (% of max possible score) from LAWSEQ age 16	0.016	-0.002	0.018		0.000	0.017
Self concept score at 16 (std)	0.031	0.069	-0.038		-0.016	0.048
Locus of Control at 16 (std)	0.287	0.474	-0.187**		-0.109	0.396***
Malaise score at 16	1.176	1.175	0.001		1.239	-0.063
Child dislikes school at 16	0.508	0.394	0.113**		0.625	-0.117**
Score on child taking school seriously at 16 (std)	0.115	0.281	-0.167***		-0.061	0.176***
Child plans to stay in education post 18 at 16	0.879	0.886	-0.007		0.542	0.336***
Taken Cannabis by age 16	0.083	0.056	0.027		0.070	0.013
Child smokes at 16	0.168	0.098	0.070*		0.257	-0.088**
Anti-social behaviour score age	-0.068	-0.268	0.199**		0.049	-0.118

16 (std)					
Child drunk alcohol once a week at 16	0.505	0.515	-0.010	0.517	-0.011
Child reports drug use ever by 16	0.138	0.082	0.056*	0.123	0.015
Child had been suspended from school by age 16	0.067	0.004	0.062*	0.042	0.025
Self reported truant in last year age 16	0.397	0.282	0.115**	0.468	-0.071
Self reported truant in last year age 10	0.007	0.000	0.007	0.007	0.001
Parent's background:					
Mother left education: over 22	0.017	0.028	-0.010	0.007	0.011
Mother left education: 19-22	0.119	0.126	-0.007	0.033	0.086***
Mother left education: 17-18	0.223	0.236	-0.012	0.098	0.125***
Mother left education: 16	0.226	0.245	-0.019	0.166	0.060**
Mother left education: 15	0.357	0.310	0.046	0.592	-0.235***
Mother left education: 14 or under	0.058	0.056	0.002	0.105	-0.047***
Father left education: over 22	0.067	0.086	-0.019	0.022	0.045***
Father left education: 19-22	0.087	0.119	-0.032	0.031	0.055***
Father left education: 17-18	0.183	0.212	-0.030	0.090	0.092***
Father left education: 16	0.223	0.214	0.010	0.137	0.086***
Father left education: 15	0.328	0.283	0.045	0.543	-0.216***
Father left education: 14 or under	0.113	0.086	0.027	0.176	-0.063***
Mother's age at birth: over 35	0.069	0.089	-0.020	0.087	-0.018
Mother's age at birth: 30-34	0.219	0.188	0.031	0.149	0.070**
Mother's age at birth: 25-29	0.356	0.395	-0.039	0.300	0.056*
Mother's age at birth: 20-24	0.317	0.292	0.025	0.361	-0.043
Mother's age at birth: under 20	0.039	0.036	0.003	0.104	-0.065***
Father's Social Class: v (Unskilled)	0.019	0.008	0.012	0.042	-0.023**
Father's Social Class: iv (Partly Skilled)	0.078	0.053	0.024	0.130	-0.052***
Father's Social Class: iiib (Skilled manual)	0.291	0.241	0.051	0.469	-0.178***
Father's Social Class: iiia (Skilled non manual)	0.110	0.097	0.013	0.090	0.020
Father's Social Class: ii (Intermediate)	0.379	0.429	-0.051	0.222	0.157***
Father's Social Class: i (Professional)	0.123	0.172	-0.049*	0.047	0.076***
Parents income over £15599 age 16	0.378	0.423	-0.045	0.179	0.199***
Parents income £10400-15599 age 16	0.267	0.266	0.001	0.244	0.023
Parents income £7800-10399 age 16	0.117	0.144	-0.027	0.178	-0.062*

Parents income £5200-7799 age 16	0.111	0.090	0.021	0.179	-0.068**
Parents income under £5199 age 16	0.128	0.077	0.050	0.219	-0.092***
Parents own house	0.841	0.866	-0.025	0.578	0.262***
Parent expects child to continue at school after 16 (age 10)	0.860	0.883	-0.023	0.533	0.327***
Parent would like child to go to college/university after school (age 10)	0.715	0.794	-0.078	0.528	0.187***
Father very interested in child's education at 10	0.695	0.783	-0.089*	0.517	0.178***
Mother very interested in child's education at 10	0.733	0.807	-0.074*	0.515	0.218***
Mother married at birth	0.884	0.893	-0.009	0.852	0.032
Region: North	0.045	0.056	-0.011	0.067	-0.022
Region: Yorkshire and Humberside	0.119	0.098	0.020	0.100	0.019
Region: North West	0.097	0.122	-0.025	0.128	-0.031
Region: East Midlands	0.056	0.053	0.003	0.073	-0.018
Region: West Midlands	0.093	0.111	-0.018	0.108	-0.015
Region: East Anglia	0.030	0.038	-0.008	0.031	-0.001
Region: South East	0.305	0.300	0.005	0.258	0.047
Region: South West	0.097	0.066	0.030	0.075	0.022
Region: Wales	0.048	0.066	-0.018	0.053	-0.005
Region: Scotland	0.112	0.084	0.027	0.105	0.007
Individual Characteristics and test scores:					
Sex	1.485	1.528	-0.044	1.513	-0.028
Num siblings at 16	1.542	1.438	0.104	1.586	-0.045
Non-white ethnicity	0.067	0.067	0.000	0.056	0.011
British Ability Score age 10 (average of std variables)	0.493	0.572	-0.080	-0.078	0.570***
Cognitive tests at 10 bottom quintile	0.051	0.045	0.006	0.221	-0.169***
Cognitive tests at 10 second quintile	0.125	0.071	0.053*	0.216	-0.092***
Cognitive tests at 10 third quintile	0.176	0.156	0.020	0.206	-0.030
Cognitive tests at 10 fourth quintile	0.209	0.247	-0.038	0.195	0.014
Cognitive tests at 10 top quintile	0.440	0.481	-0.041	0.163	0.276***
Cognitive tests at 10 bottom quintile	0.070	0.069	0.001	0.218	-0.147***
Cognitive tests at 10 second quintile	0.147	0.119	0.028	0.210	-0.063**
Cognitive tests at 10 third quintile	0.168	0.173	-0.005	0.203	-0.035
Cognitive tests at 10 fourth	0.249	0.252	-0.002	0.193	0.056*

quintile						
Cognitive tests at 10 top quintile	0.365	0.387	-0.022		0.175	0.190***
Number of Observations	*357*	*1,582*	*N/A*		*11,261*	*N/A*

*** means the effect is significantly different from zero at the 0.1% level, * at the 1% level, * at the 5% level. Column 1 is the average of the characteristic for gap year taker, Column 2 the average of the characteristics for direct-to-HE students. Column 3 is the difference between Gap Years and direct-to-HE students. Column 4 is the average for non gap year takers and nonstudents in wave 6 of the LSYPE. Column 5 is the difference between gap year takers and "non-students."

Table C2: Probit results: characteristics that predict gap year taking

	Gap Year
Number of O levels at grades 1-6	0.004 [0.004]
Number of CSEs	0.008 [0.007]
Number of A levels by age 18	-0.011 [0.007]
Moderate behavioural problems at 5	-0.032 [0.034]
Severe behavioural problems at 5	-0.074 [0.080]
Moderate behavioural problems at 10	-0.016 [0.034]
Severe behavioural problems at 10	0.133 [0.069]
Self Esteem at 10 (std)	-0.008 [0.012]
Locus of Control at 10 (std)	0.002 [0.014]
Self perceived ability at 10 (std)	0.011 [0.012]
Extent that child bullied others at 10 (std)	0.033* [0.014]
Positive activities score at 10 (std)	-0.018 [0.010]
Moderate behavioural problems at 10	-0.018 [0.039]
Severe behavioural problems at 10	0.083 [0.080]
Std self-esteem score (% of max possible score) from LAWSEQ age 16	0.007 [0.018]
Self concept score at 16 (std)	-0.004 [0.040]
Locus of Control at 16 (std)	-0.014 [0.018]
Malaise score at 16	-0.031 [0.029]
Child dislikes school at 16	0.028 [0.025]
Score on child taking school seriously at 16 (std)	-0.043 [0.027]

Child plans to stay in education post 18 at 16	0.023 [0.042]
Taken Cannabis by age 16	-0.076 [0.069]
Child smokes at 16	0.069 [0.037]
Anti-social behaviour score age 16 (std)	0.021 [0.017]
Child drunk alcohol once a week at 16	-0.045 [0.026]
Child reports drug use ever by 16	0.08 [0.057]
Child had been suspended from school by age 16	0.450** [0.131]
Self reported truant in last year age 16	0.034 [0.026]
Self reported truant in last year age 10	1.395 [42.415]
Mother left education: 15	0.025 [0.048]
Mother left education: 16	0.027 [0.048]
Mother left education: 17-18	0.02 [0.049]
Mother left education: 19-22	0.035 [0.054]
Mother left education: over 22	-0.028 [0.080]
Father left education: over 22	-0.03 [0.052]
Father left education: 19-22	-0.064 [0.045]
Father left education: 17-18	-0.049 [0.039]
Father left education: 16	-0.022 [0.038]
Father left education: 15	-0.024 [0.036]
Mother's age at birth: over 35	-0.018 [0.059]
Mother's age at birth: 30-34	0.063 [0.051]
Mother's age at birth: 25-29	0.033 [0.049]
Mother's age at birth: 20-24	0.036 [0.049]
Father's Social Class: v (Unskilled)	0.154 [0.087]
Father's Social Class: iv (Partly Skilled)	0.103* [0.047]
Father's Social Class: iiib (Skilled manual)	0.055 [0.035]
Father's Social Class: iiia (Skilled non manual)	0.053

	[0.040]
Father's Social Class: ii (Intermediate)	0.02
	[0.030]
Parents income over £15,599 age 16	-0.029
	[0.048]
Parents income £10,400-15,599 age 16	-0.031
	[0.048]
Parents income £7,800-10,399 age 16	-0.072
	[0.053]
Parents income £5,200-7,799 age 16	-0.032
	[0.056]
Parents own house	0.015
	[0.028]
Parent expects child to continue at school after 16 (age 10)	0.029
	[0.032]
Parent would like child to go to college/university after school (age 10)	-0.046
	[0.032]
Father very interested in child's education at 10	-0.038
	[0.034]
Mother very interested in child's education at 10	0.014
	[0.032]
Mother married at birth	0.003
	[0.042]
Region: North	-0.045
	[0.050]
Region: Yorkshire and Humberside	0.041
	[0.035]
Region: North West	-0.03
	[0.036]
Region: East Midlands	0.035
	[0.046]
Region: West Midlands	-0.008
	[0.036]
Region: East Anglia	-0.028
	[0.058]
Region: South West	0.068
	[0.039]
Region: Wales	-0.044
	[0.046]
Region: Scotland	0.056
	[0.041]
Sex	0.006
	[0.018]
Number of siblings at 16	0.008
	[0.013]
Non-white ethnicity	-0.009
	[0.042]
British Ability Score age 10 (average of std variables)	0.006
	[0.022]
Cognitive tests at 10 second quintile	0.089
	[0.058]
Cognitive tests at 10 third quintile	0.044
	[0.056]

Cognitive tests at 10 fourth quintile	0.015 [0.057]
Cognitive tests at 10 top quintile	0.038 [0.060]
Cognitive tests at 10 second quintile	0.041 [0.046]
Cognitive tests at 10 third quintile	0.018 [0.045]
Cognitive tests at 10 fourth quintile	0.029 [0.044]
Cognitive tests at 10 top quintile	0.026 [0.043]
Number of observations	1,939

** means the effect is significantly different from zero at the 1% level, * at the 5% level. Estimation is by Maximum likelihood of a probit model with the dependent variable 1 if the individual took a gap year, 0 if they went straight to university/Higher Education. Average marginal effects are reported. Heteroskedastic- robust standard errors are used. Results are relative to a baseline of the first quintile for cognitive tests, South East for region, income under £5200 for parental income, professional father for social class, age 19 or earlier for mother's age at birth, 14 or younger for parental education and no behavioural problems for behavioural problems.

Appendix D: Additional results for long run effect of taking a gap year

Table D1a: Restricting to common sample between 30 and 34

	log(wage) at 30	log(wage) at 30	log(wage) at 34	log(wage) at 34
Gap Year	-0.070*	-0.054	-0.031	-0.042
	[0.030]	[0.035]	[0.034]	[0.035]
R^2	0.21	0.23	0.23	0.24
N	1,566	1,136	1,136	1,274
Restrictions:	Non missing wages at age 30	Non missing wages at ages 30 and 34	Non missing wages at ages 30 and 34	Non missing wages at age 34

Notes: ** means the effect is significantly different from zero at the 1% level, * at the 5% level. Estimated by OLS. Standard errors are robust to heteroskedasticity. Hourly wages are deflated by RPI and expressed in constant January 2001 prices (age 30) January 2006 prices (age 34. Wages are only shown for people in employment. Regressions control for background characteristics. Quoted coefficients show the effect of taking a gap year compared to going to HE without taking one. Columns 1 and 4 include all non-missing observations for the respective years. Columns 2 and 3 are the restricted to those who have non missing wages in both periods.

Table D1b: Restricting to common sample between 34 and 38

	log(wage) at 34	log(wage) at 34	log(wage) at 38	log(wage) at 38
Gap year	-0.043	-0.014	-0.027	-0.013
	[0.035]	[0.042]	[0.040]	[0.038]
R^2	0.24	0.29	0.31	0.29
N	1,274	912	912	1,110
Restrictions:	Non missing wages At age 34	Non missing wages at ages 34 and 38	Non missing wages at ages 34 and 38	Non missing wages at age 38

Notes: ** means the effect is significantly different from zero at the 1% level, * at the 5% level. Estimated by OLS. Standard errors are robust to heteroskedasticity. Hourly wages are deflated by RPI and expressed in constant January 2006 prices (age 34); January 2010 prices (age 38). Wages are only shown for people in employment. Regressions control for background characteristics. Quoted coefficients show the effect of taking a gap year compared to going to HE without taking one. Columns 1 and 4 include all non-missing observations for the respective years. Columns 2 and 3 are the restricted to those who have non missing wages in both periods

Table D1c: Restricting to common sample between 30, 34 and 38

	log(wage) at 30	log(wage) at 30	log(wage) at 34
Gap year	-0.026	-0.021	-0.011
	[0.040]	[0.041]	[0.042]
R^2	0.28	0.29	0.31
N	821	821	821

Notes: ** means the effect is significantly different from zero at the 1% level, * at the 5% level. Estimated by OLS. Standard errors are robust to heteroskedasticity. Hourly wages are deflated by RPI and expressed in constant January 2001 prices (age 30) January 2006 prices (age 34) and January 2010 prices (age 38). Wages are only shown for people in employment. Regressions control for background characteristics. Quoted coefficients show the effect of taking a gap year compared to going to HE without taking one.

Table D2: Placing restrictions on wage regressions

	Log wages at age 30			
Restrictions:	None	Men only	Women only	Excluding top and bottom 1% of earners
Gap year	-0.065* [0.031]	-0.077 [0.049]	-0.069 [0.039]	-0.044 [0.027]
R^2	0.18	0.24	0.21	0.21
N	1,566	774	792	1,536
	Log wages at age 34			
Restrictions:	None	Men only	Women only	Excluding top and bottom 1% of earners
Gap year	-0.039 [0.036]	-0.06 [0.051]	-0.077 [0.056]	-0.018 [0.032]
R^2	0.22	0.29	0.27	0.24
N	1274	638	636	1250
	Log wages at age 38			
Restrictions:	None	Men only	Women only	Excluding top and bottom 1% of earners
Gap year	-0.017 [0.040]	-0.079 [0.055]	0.016 [0.060]	-0.006 [0.034]
R^2	0.24	0.32	0.28	0.26
N	1110	543	567	1088

** means the effect is significantly different from zero at the 1% level, * at the 5% level. Standard errors are robust to heteroskedasticity. All regression control for background variables.

Appendix E: long run impact of taking a gap year on risky behaviours

Gap years may not only have an impact on the individual's labour market outcomes, but on other outcomes later in life. Gap years provide young people with the ability to temporarily enter the labour market, but also possibly spend a period of leisure (perhaps travelling) at an early age, which may have formative effects on the individual. Moreover, once a gap year has been undertaken, a return to education necessarily involves being older than the majority of your peers throughout higher education. It is interesting to see whether there are any impacts on broader outcomes, in particular the effects of taking a gap year on relationships, mental health and risky behaviours. The effect on risky behaviours may be interesting in particular because evidence from both the BCS and LSYPE suggests that those taking part in risky behaviours as a young person who enters university is more likely to take a gap year than to go straight from school.

First of all, the effect of gap years on relationship status is investigated (see Table E1). When controlling for background and education, gap year takers are significantly less likely to be married, or ever have been married compared to students who went direct to university. (In general they are 8-10 percentage points less likely to be married) This is not due to higher rates of separation, because they are also less likely to have ever been married. There is weaker (but still significant) evidence that they are more likely to be single (defined as never married, living alone), with gap year takers 5.3pp more likely to be single at age 34.

It is not clear what the reason for this could be. It could be that taking many gap years means that an individual is significantly older than most fellow students and one common route to finding a partner is made harder. Alternatively, a gap year may increase the independence of the gap year taker and they are therefore more likely to choose to remain unmarried for a longer period of time.

There are various measures of risky behaviours across the different waves. In the four waves from age 26 to 38, there is data on smoking and its frequency. At ages 30 and 34 there is data on cannabis consumption, and at age 30 data on consumption of different illegal drugs. At ages 30 and 34 there are also questions on the "CAGE" alcohol scale, which is four questions asking whether the individual should cut down, whether they are annoyed by criticism of drinking, whether they feel guilty about drinking and whether they drink first thing in the morning. Answering "yes" to two or more means you are "at risk" of alcoholism and the outcome used is whether or not the individual is deemed to be "at risk".

On mental health, the data is not consistent across waves. At age 30, there is the 24 question "malaise scale"; answering "yes" to 8 or more questions indicates being "at risk" of mental health problems; the analysis investigates the effect of taking a gap year

on being "at risk". At age 34, there is only a subset of these questions and also 4 of the 10 questions on the Kessler Psychological Distress scale ("K10 scale").

This analysis uses the same identification strategy as before, i.e. no variable affects both the decision to take a gap year and the outcome (mental health, risky behaviours) that is not controlled for in the background variables. There is a particular difficulty here because the variables measuring risky behaviours and mental health at age 16, which may be a particularly important time to control for these behaviours, were only asked to between half and two thirds of the cohort. This was partially due to a teachers' strike in 1986 which impeded data collection, meaning that age 16 data is patchy compared to other waves. Furthermore, the survey was carried out in the form of multiple booklets, some of which many people did not fill out.   This means that it is hard to control for these variables with the same confidence as if this data was not missing for a large proportion of observations.

When estimating the effects of gap years on these risky behaviours, there are four specifications: as usual, raw differences, controlling for background variables and controlling for background and education. The fourth specification controls for relationship status to see if that is a channel through which gap years may affect future outcomes. Finally, the fifth specification uses only those observations for which the dependent variable at age 16 is not missing. For example, when examining the effect of gap years on smoking behaviour at 30, this specification only includes those observations for which smoking behaviour is observed at age 16.

Cannabis consumption

There are significant raw effects of taking a gap year on probability of cannabis consumption; taking a gap year increases the probability of smoking cannabis at age 30 by 5.6pp, and there is a marginally significant impact of 4.4pp when controlling for background and education. Although not significant when restricting the sample to those for whom there is data on cannabis consumption at age 16, the point estimates are little larger at 5.2pp; the lack of significance is caused by higher standard errors.

There are very similar effects at age 30 on the probability of taking illegal drugs at 30. There are more significant results for the consumption of any illegal drug, with gap year takers 5pp more likely to consume illegal drugs at age 30 controlling for background and education. There is some evidence that part of the increased likelihood of consuming drugs is caused by gap year takers being less likely to be married, as controlling for relationship status reduces the impact of a gap year on probability of taking drugs or only cannabis.

Smoking

There are significant positive raw effects on the probability of smoking at ages 26 to 34, in the region of 6pp to 11pp depending on year and specification. When controlling for background variables (and education), the coefficients estimated imply that taking a gap

year raises the probability of smoking by 5 to 6pp at ages 30 and 34, although not at ages 26 or 38. Moreover, when restricting the sample to those for which there is smoking data at 16, the estimates are very close to zero and none are statistically significant, indicating there is no effect on smoking behaviour. It is not surprising that the omission of smoking at 16 has a large effect since smoking is a habit forming activity, so is likely to be an important determinant of smoking at age 30 onwards and in general people who undertake risky behaviours are more likely to participate in gap years. However, there is evidence that gap year takers were less likely to fill out the question on smoking at age 16, even when controlling for observables characteristics at age 10 and 5, which means that by restricting interest to those that did answer the question may introduce a sample selection problem.

Risk of alcoholism

At age 30, there are no significant effects on risk of alcoholism, although point estimates show an increase of around 2pp on the risk of alcoholism. At age 34, the probit model estimates that a gap year is associated with a significant increase in the risk of alcoholism by 4pp when controlling for background variables. However, when restricting the sample to only use those observations for which there is data on alcohol intake at age 16, there is no effect

Mental health

The results at age 30 suggest there is no effect of a gap year on risk of mental health problems, with point estimates close to zero. In order to have some sort of comparable scale to age 34, I use the same subset of questions as there is at age 34 to form a scale from 0 to 8, where 8 is at most risk of depression. On this scale at age 30 there is still no significant effect, and although there is a significant raw effect at age 34, which points to a small increase in risk of mental health problems, this is not significant when controls are added and is negative when using the restricted sample.

There is another measure of mental health at age 34, which involves a subset of the "K10" questions.[30] According to the scale, a gap year is associated with poorer mental health, of around 0.1 of a standard deviation when controlling for background, although this is not significantly different from zero.

Overall, it is hard to form clear conclusions on the effects of gap years on mental health or risky behaviours. This is due to three reasons: firstly, there is relatively low sample size. Most importantly, the data on pre-gap year behaviour (at age 16) is missing for many observations. The most robust impacts seem to be on the consumption of cannabis and other illegal drugs at age 30, where there seems to be a 4-5pp increase in the probability of consumption, which is marginally significant. Otherwise, it is hard to

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[30] The four questions that make up this scale are: How frequently do you: i) feel so depressed that nothing can cheer you up, ii) feel hopeless, iii) feel restless and iv) feel that everything was an effort.

find any robust results, although there is some evidence that gap year takers are more likely to take cannabis and other illegal drugs at age 30.

Table E1: Effect of taking a gap year on subsequent relationship status

	Married at 30	Ever been Married at 30	Cohabits at 30	Lives alone at 30
Gap Year	-0.104**	-0.105**	0.044	0.048
	[0.033]	[0.033]	[0.026]	[0.031]
Pseudo - R2	0.08	0.08	0.11	0.09
N	1,612	1,612	1,612	1,612

	Married at 34	Ever been Married at 34	Cohabits at 34	Lives alone at 34
Gap Year	-0.099**	-0.089**	0.036	0.053*
	[0.034]	[0.033]	[0.022]	[0.024]
Pseudo - R2	0.09	0.09	0.1	0.11
N	1,398	1,398	1,612	1,615

	Married at 38	Ever been Married at 38
Gap Year	-0.048	-0.081**
	[0.033]	[0.029]
Pseudo - R2	0.09	0.11
N	1,324	1,324

Notes: ** means the effect is significantly different from zero at the 1% level, * at the 5% level. Estimated by Probit regression using Maximum Likelihood Estimation. Average marginal effects are reported. Standard errors are robust to heteroskedasticity. Each regression controls for background and tertiary education type.

Table E2: Effect of taking a gap year on drug consumption

	Takes drugs at age 30				
Specification	(1)	(2)	(3)	(4)	(5)
Gap Year	0.067**	0.048*	0.050*	0.035	0.059*
	[0.023]	[0.023]	[0.023]	[0.022]	[0.029]
PseudoR2	0	0.13	0.13	0.19	0.19
N	1,934	1,934	1,934	1,934	1,172
	Takes Cannabis at age 30				
Specification	(1)	(2)	(3)	(4)	(5)
Gap Year	0.056*	0.042	0.043*	0.031	0.057*
	[0.023]	[0.022]	[0.022]	[0.021]	[0.029]
PseudoR2	0.00	0.14	0.14	0.2	0.19
N	1,934	1,934	1,934	1,934	1,172
	Takes Cannabis at age 34				
Specification	(1)	(2)	(3)	(4)	(5)
Gap Year	0.054*	0.028	0.027	0.021	0.019
	[0.023]	[0.022]	[0.022]	[0.022]	[0.028]
PseudoR2	0.00	0.15	0.16	0.19	0.23
N	1,660	1,660	1,660	1,660	1,019

Table E3: Effect of taking a gap year on smoking behaviour

	Smoke at age 26				
Specification	(1)	(2)	(3)	(4)	(5)
Gap Year	0.091**	0.042	0.046	0.046	0.027
	[0.028]	[0.026]	[0.026]	[0.026]	[0.030]
PseudoR²	0.01	0.19	0.19	0.19	0.26
N	1,496	1,496	1,496	1,496	1,028

	Smoke at age 30				
Specification	(1)	(2)	(3)	(4)	(5)
Gap Year	0.079**	0.059*	0.067**	0.057*	0.037
	[0.023]	[0.023]	[0.023]	[0.023]	[0.028]
PseudoR²	0.01	0.12	0.13	0.15	0.18
N	1,939	1,939	1,939	1,939	1,228

	Smoke at age 34				
Specification	(1)	(2)	(3)	(4)	(5)
Gap Year	0.101**	0.058**	0.064**	0.050*	0.000
	[0.022]	[0.021]	[0.021]	[0.021]	[0.025]
PseudoR²	0.01	0.16	0.17	0.19	0.23
N	1,659	1,659	1,659	1,659	1,065

	Smoke at age 38				
Specification	(1)	(2)	(3)	(4)	(5)
Gap Year	0.051*	0.02	0.023	0.023	-0.012
	[0.021]	[0.019]	[0.019]	[0.019]	[0.024]
PseudoR²	0	0.19	0.21	0.21	0.3
N	1,574	1,574	1,574	1,574	1,014

Table E4: Effect of taking a gap year on risk of depression, age 30

	At Risk of Depression, age 30			
Specification	(1)	(2)	(3)	(4)
Gap Year	0.02	0.009	0.009	-0.011
	[0.014]	[0.013]	[0.013]	[0.015]
PseudoR²	0	0.16	0.16	0.23
N	1,932	1,932	1,932	1,395

variables. Column 2: including background variables. Column 3: including background variables and tertiary education. Column 4: includes background variables but only if there is a non-missing value for mental health (Malaise index) at age 16

Table E5: Effect of taking a gap year on mental health scales

	8 question Mental Health Scale, age 30				
Specification	(1)	(2)	(3)	(4)	(5)
Gap Year	0.158 [0.097]	0.135 [0.096]	0.134 [0.096]	0.129 [0.096]	0.115 [0.123]
R^2	0	0.12	0.12	0.12	0.2
N	1,933	1,933	1,933	1,933	1,078

	8 question Mental Health Scale, age 34				
Specification	(1)	(2)	(3)	(4)	(5)
Gap Year	0.217 [0.114]	0.117 [0.110]	0.134 [0.110]	0.109 [0.111]	0.155 [0.145]
R^2	0	0.16	0.16	0.17	0.25
N	1,655	1,655	1,655	1,655	936

	K10 Mental Health Scale, age 34				
Specification	(1)	(2)	(3)	(4)	(5)
Gap Year	-0.135** [0.048]	-0.099* [0.048]	-0.100* [0.048]	-0.081 [0.048]	-0.127* [0.065]
R^2	0.01	0.14	0.15	0.17	0.22
N	1,655	1,655	1,655	1,655	936

** means the effect is significantly different from zero at the 1% level, * at the 5% level. Estimation is Ordinary Least Squares. Heteroskedastic- robust standard errors are used. Column 1: no control variables. Column 2: including background variables. Column 3: including background variables and tertiary education. Column 4: includes background variables but only if there is a non-missing value for cannabis consumption at age 16

Table E6: Effect of taking a gap year on risk of alcohol abuse

	At Risk of Alcohol Abuse, age 30				
Specification	(1)	(2)	(3)	(4)	(5)
Gap Year	0.019 [0.018]	0.012 [0.017]	0.01 [0.017]	0.006 [0.017]	0.008 [0.021]
$PseudoR^2$	0	0.15	0.15	0.16	0.23
N	1,890	1,890	1,890	1,890	1,135

	At Risk of Alcohol Abuse, age 34				
Specification	(1)	(2)	(3)	(4)	(5)
Gap Year	0.037 [0.022]	0.042* [0.021]	0.041* [0.021]	0.035 [0.021]	0.017 [0.027]
$PseudoR^2$	0	0.14	0.14	0.15	0.19
N	1,611	1,611	1,611	1,611	1,135

** means the effect is significantly different from zero at the 1% level, * at the 5% level. Estimation is by Maximum likelihood of a probit model with the dependent variable 1 if in at risk of Alcohol Abuse, 0 if not. Average marginal effects are reported. Heteroskedastic- robust standard errors are used. Column 1: no control variables. Column 2: including background variables. Column 3: including background variables and tertiary education. Column4: Includes background variables, education and current relationship status. Column 5: includes background variables but only if there is a non-missing value for alcohol consumption at age 16