

Factors associated with young adults delaying and forgoing driving licences: Results from Britain

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ABSTRACT

OBJECTIVE: To identify the reasons that young adults (age 17 to 29) in Britain delay or forgo driving licence acquisition

METHODS: Using year 2010 British National Travel Survey microdata, we first analyse self-reported reasons (including their prioritisation) for not holding a full car driving licence and then estimate a logistic regression model for licence-holding to investigate additional factors, several of which extend from previous studies. This study also employs a novel segmentation approach to analyse the *sets of reasons* that individual young adults cite for not driving.

RESULTS: These results show that, despite the lack of a graduated driving licence system at present, many young adults indicate that issues associated with the driving-licence-acquisition process are the main reason they do not hold a full driving licence. About three in ten young adults can be interpreted as not viewing driving as a priority, whilst half of those without a licence are either learning to drive or are deterred principally by the cost of learning. We calculate that after their 17th birthday (the age of eligibility for a full driving licence) young adults spend a mean of 1.7 years learning to drive.

Young adults citing the costs of insurance or car purchase are likely to cite them as secondary rather than the main reason for not driving, whereas those citing physical/health difficulties are very likely to cite this as the main reason they do not drive. Two distinct groups of young people are identified that both indicate that costs deter them from driving – one group that is less well-off financially and that indicates that costs alone are the primary deterrent, and one that reports that other reasons also apply and is better-off. Status as an international migrant was found to be an important factor, net of confounding variables, for identifying that a young adult in Britain does not hold a driving licence. Further research is needed to understand the relative saliency of plausible causal mechanisms for this finding. We also report that both personal income and household income are independently positively associated with licence-holding, but that [intuitively] the relationship of licence-holding with a young adult's own personal income is the much stronger of the two.

CONCLUSIONS: On the basis of these findings, it can be concluded that a number of previously under-appreciated factors appear to be linked with young British adults not acquiring a driving licence.

KEY WORDS

Driving licence, young adults

INTRODUCTION

There is growing interest in the decline in young adults' licence-acquisition rates in a number of industrialised countries. While it is unclear whether this phenomenon is still ongoing or licence-acquisition has stabilised, across a wide set of OECD countries the current rates are well below the historic peaks of a decade or two ago (Delbosc & Currie 2013a, Kuhnimhof et al. 2011, Tefft et al. 2013).

This paper presents results from Great Britain; Figure 1 shows that the peak rate of licence-holding for young adults (age 17 – 29) was in the early 1990s, after which a period of decline in the late 1990s was followed by a more or less steady-state pattern in the 2000s.

<<Figure 1 about here>>

Researchers studying the historic drop in licence-acquisition rates generally appeal to one of two methods – attempting to draw statistical inferences from analysis of survey datasets where both driver-status and hypothesised correlates are observed (e.g. McDonald and Trowbridge 2009, Sivak & Schoettle 2011, Delbosc and Currie 2013b, Shults and Williams 2013), or collecting and analysing data in which unlicensed young people are asked explicitly why they do not have a driving licence (Tefft et al. 2013, Schoettle and Sivak 2014). The advantage of the former strategy is that it makes use of direct observations (*revealed-preference* data) of relevant personal attributes, whereas the latter relies on self-reported motivations. In the latter case the researcher may tailor the questionnaire instrument to the specific needs of the research question, but runs the risk of missing aspects of the issue that they do not design the instrument to take into account.

This paper draws on both of these complementary methods, using data from the 2010 British National Travel Survey. As with earlier studies in this line of enquiry, we also rely on cross-sectional data so cannot assert that the associations we report are causal. The relationships we show are, however, in a number of cases consistent with the international literature, and extend from it in several dimensions.

The rest of this paper is structured as follows. Section 2 discusses the recent literature regarding young people deferring or forgoing licence acquisition. Section 3 describes the data employed in this study. Section 4 then presents results from analysis of young British adults' stated reasons for not having a driving licence, and Section 5 presents results based on a logistic regression analysis of licence-holding. Section 6 concludes this paper with a discussion of the findings and the directions these results suggest for future research.

BACKGROUND

A number of studies in recent years have investigated why young adults' licence-holding rates are lower today than in the past (cf. Delbosc and Currie 2013a). The longer-term trend in Britain, as can be seen in Figure 1, had been upwards until a reversal in the 1990s. Kuhnimhof et al. (2011) show that the phenomenon has taken place in other industrialised countries as well. Using U.S. data, Shults and Williams (2013) show that licence-holding amongst high school seniors declined from 86% to 73% from 1996 to 2010, with most of the decline coming after 2006. Though the period 1996 through 2006 saw nearly every U.S. state implement graduated driving licencing requirements, Shults and Williams' analysis suggests that economic factors are primarily responsible, particularly the financial dislocation from 2007 onwards. Le Vine and Jones (2012) show,

however, that in Britain the decline in licencing has been stronger among young men than young women, and that young British men's incomes have been in steady decline since 2001 whilst young women's have been stagnant. This is in spite of growing per-capita [all-ages] real incomes) prior to the 2007 recession.

Delbosc and Currie (2013b) reach similar conclusions as Shults/Williams and Le Vine/Jones regarding the importance of demographic and economic factors, on the basis of logistic regression of licence-holding and correlates (as opposed to self-reported reasons for not driving) in Melbourne, Australia.

Earlier work in Britain by Noble (2005) shows that pass rates for practical (on-road) driving tests in Britain steadily declined from the early 1990s to the mid-2000s, which was a smooth downward trend with the exception of a one-time increase of a few percentage points just before the introduction of the theory test in 1997. As of 2011, the pass rate for the [computer-administered multiple-choice] theory test is 61% (DSA 2012a), down from 65% in 2007. Passing this test is a prerequisite for reserving a timeslot to take the practical driving test, which can take mean a waiting period of up to 3 months (DSA 2013a). The practical driving test has (as of 2012) a pass rate of 47% (up from 44% in 2007) (DSA 2013b). A full driving licence is awarded upon passing the practical test.

The present study builds on the body of international literature in several ways. First, it draws on the prioritisation structure (main v. secondary) of self-reported reasons for not driving. Second, it provides a novel segmentation approach to highlight patterns that have not previously been identified in the *sets of reasons* that individual young adults cite for not driving. (The recent studies in the literature that have made use of such self-reported data have employed uni-dimensional analyses [Schoettle and Sivak 2013, Tefft et al. 2013, Le Vine et al. 2014]). Third, this study establishes the effects of emerging issues not previously investigated in detail, such as international migration status and whether there are distinct impacts of a young adult's own personal income versus income earned by other household members.

DATA

The British National Travel Survey (NTS) is a large-scale household survey of personal travel that is nationally-representative of the British population (Rofique et al. 2011). Data from the NTS are used to generate Britain's official *National Statistics* relating to personal travel (UKSA 2011). The survey consists of both a household interview and seven-day travel diary completed by all respondents, and the sample is a repeated cross-section (i.e. different households each year). It has been undertaken by the British Department for Transport and its predecessors in broadly-similar form since the first edition in 1965/6. Following ad-hoc NTSs in 1972/3, 1975/6, 1978/9, and 1985/6, beginning in 1988 the survey has been undertaken on a continuous basis, in part to ensure maximum consistency in the time series (Freeth 2000). From 2002 the sample size has been approximately 20,000 people annually (the annual sample between 1988 and 2001 was approximately one-third of this size). The NTS' fieldwork is administered in accordance with a rigorous sampling protocol, with the data subsequently re-weighted during post-processing to account for differential response rates. Full details of the NTS' methodology are available at (Rofique et al. 2011). This study makes use of data from the 2010 edition of the NTS; analysis was performed using SPSS software.

Whether an NTS respondent is coded as holding a full car driving licence has consistently been defined by their response to the following questions: “Do you hold a full driving licence valid in Great Britain to drive either a car, or a motorcycle, scooter or moped? [IF YES] Is it for a car only, a motorcycle only or for both, or is it for a car with special adaptations?” The interviewer is provided with notes instructing them to include “disqualified drivers and international permits/other licences valid in the UK” in the set of people coded as holding a full driving licence (Rofique et al. 2011, p.82). The interviewer notes are important to interpreting this data as it is legal to move to Britain from elsewhere in the European Union (but not from non-EU countries) and to never (before the age of 70) exchange one’s foreign driving licence for a British-issued licence.

Unlike many other developed countries where graduated licence (GDL) acquisition regimes have been implemented in recent decades, since the 1930s there have been only two main types of driving licences in Britain (there are exceptions for disabled drivers) (DSA 2012b). A *provisional licence* allows the holder to drive with an experienced driver as a passenger (but not without one in the car) whereas a *full licence* has no such restriction.

Self-reported data such as the NTS is inherently subject to reporting biases and errors; an alternative resource we considered is administrative data on licence-holding. Historic administrative data for Britain is not available in disaggregate form, however (Toft 2012). Even if it were available, historic administrative licence-holding data would be subject to different sorts of biases and errors; for instance it would not record licences issued elsewhere in the EU that are held by British residents, as the NTS instrument is designed to do. It would, however, include some records associated with people that have died and people that have permanently moved abroad, which is an undesirable characteristic in a dataset for use in answering this study’s research questions.

For the purpose of this analysis, ‘young adults’ are defined as those under age 30. The unweighted sample size of people aged from 17 (the minimum age for acquiring both a provisional and a full driving licence in Britain) to 29 is 2,972; the sample is weighted for analysis purposes to be nationally-representative of British adults in this age band.

Following identification in the early 2000s of the drop in the licence-holding rate amongst young adults, it was decided to make use of future editions of the NTS to investigate why this has happened. Noble (2005) reports on pilot testing of a set of questions as part of an omnibus survey, questioning that was later incorporated into the NTS protocol. All adult NTS respondents that do not hold a full car driving licence and are not learning to drive are asked why they do not drive. They are presented with a showcard with a list of pre-specified reasons; if they indicate more than one reason they are asked to identify one as the ‘main’ reason that they do not drive. 49% of young adult respondents that are not currently learning to drive cited only one reason for not driving; the mean number cited was 2.5. When considering the analyses in the next section, it must be kept in mind that NTS respondents’ identified reasons for not driving are self-reported and are therefore inherently subject to a variety of errors and biases, such as social desirability bias (cf. Fisher 1993). Particular caution is called for in interpreting the distinction between stated main and secondary reasons cited for not driving; though it cannot be known for certain it may be difficult for respondents to reliably distinguish between the main and secondary reasons that they do not drive.

In addition to those described previously in this section, the following variables were included in this study. All variables are based on self-reported data from NTS-responding households, with the exception of the urban/rural code and population density variables, which are calculated based on the address of the respondent's residence. Further details regarding variable definitions can be found in (Rofique et al. 2011):

- Gender
- Age (in single years-of-age)
- A dummy variable of whether a person is employed or not
- A dummy variable of whether a person is employed full-time or not
- A dummy variable of whether a person holds a degree or higher academic qualification
- A dummy variable of whether a person lives with a child in their household that is at least 15 years younger than them, which we interpret as 'their child(ren)'
- A dummy variable of whether a person live with an adult in their household that is at least 15 years older than them, which we interpret as 'their parent(s)'
- A dummy variable of whether a person was born outside of the UK
- A continuous variable of the amount of a person's own income (earned by themselves), in units of GBP/year
- A continuous variable of the amount of all other income earned by household members (not the person themselves), in units of GBP/year
- A categorical urban/rural code of whether a person's resides in Greater London, all other urban areas, or a rural area
- A continuous variable of the population density of the postcode sector in which the person resides, in units of persons/hectare
- A continuous variable of the respondent's walking time to reach the nearest public transport stop, in units of minutes

ANALYSIS OF STATED REASONS FOR NOT HOLDING A LICENCE

55% of young British adults in 2010 reported having a full car driving licence; the analysis in this section focuses on the remaining 45%.

Table 1 shows the breakdown of not-fully-licenced young adults by the main and secondary reasons they report for not driving. Those that indicate that they are learning to drive are also shown; in those cases we observe that status but not any other information as they are not asked to self-report any further reasons for not driving.

<<Table 1 about here>>

We see that those learning to drive are the biggest single group of unlicenced young adults (28%). They are followed by those that indicate they are deterred by the costs of learning to drive (23%), and the implication is that for about half (51%) of unlicenced young British adults learning to drive is the main stated reason for not driving. Recent studies of licence-acquisition have not directly addressed the costs of learning to drive, which in

Britain have been shown to have a mean in excess of £1,000 (\$1,600 U.S. dollars) for people that pass the driving test. (Wells et al. 2008)

The next most prevalent main reasons for not driving relate to seeing driving as a relatively low priority. 9% report that they are not interested in driving, 8% indicate that family or friends drive them when necessary, 7% report that other forms of transport are available, and another 5% indicate that they are 'too busy to learn'. Thus just under three in ten (29%) young adults seem to view driving as a low priority. A combined total of 7% cite costs other than learning to drive as the main reason (3% cite the cost of buying a car, another 3% cite the cost of insurance, and 1% cite other general motoring costs). All other reasons are cited as main reasons for not driving by fewer than 5% of unlicensed young adults.

Of the times that each reason is cited as a reason for not driving (either main or secondary), the furthest-right column in Table 1 looks at the percentage of the time that it is cited at the main reason. Analysis of this type of data structure – that investigates the relative explanatory power when multiple reasons for not driving are cited by an individual – was not possible on earlier studies, even those that did allow respondents to report multiple reasons. We see that, whilst physical/health difficulties were cited by only 4% of unlicensed young adults, over 90% of those mentioning this reason cited it as the main reason they do not drive. In other words, few young adults report that health reasons prevent them from driving, but those that do cite their health are very likely to indicate that that is the main reason that they do not drive. A similar pattern was found for the unspecified 'other' category (3% cited it, and of these people 82% said it was the main reason they do not drive). At the other end of the distribution are three 'cost' reasons – the cost of buying a car (cited as the main reason only 13% of all times that it is cited), the cost of insurance (also 13%), and other general motoring costs (10%). These reasons tend to be cited as secondary factors rather than the main reasons that young adults do not drive.

Table A1 in the Appendix looks at the correlation pattern amongst the self-reported reasons for not driving. For ease of interpreting the correlation matrix all not-statistically-significant correlations have been redacted, those correlations in the top [positively-signed] 10% are highlighted in bold text, and conversely values in the bottom [negatively-signed] 10% are highlighted with grey cell shading.

We see in Table A1 that there are strong positive correlations between the four 'cost' reasons – citing any cost is associated with also citing other costs. We see strong negative correlations between physical/health difficulties and three of the four cost categories, and also being simply not interested in driving. People mentioning a reason that was not included in the pre-specified list on the showcard ('other') were less likely to cite the costs of driving as deterrents to driving. Therefore, people that cited physical/health difficulties, unspecified 'other' reasons, or being uninterested in driving were less likely than other people to also indicate that costs deter them from driving. Indeed, for those citing either health issues or 'other' reasons, there were no statistically-significant positive correlations with any of the other reasons for not driving.

We next look at socio-demographic correlates of stated reasons for not driving; to do so unlicensed young adults that were not learning to drive at the time of their interview were segmented into three mutually-exclusive groups on the basis of their self-reported reasons for not driving. Main and secondary reasons for not driving

were treated identically. For comparison purposes, the same statistics were also calculated for people that are fully-licenced and that are learning to drive. The five segments in this analysis were therefore:

- Those young adults that hold a full car driving licence
- Those that are learning to drive
- Those that cite at least one ‘cost’ reason for not driving, but none of the ‘non-cost’ reasons
- Those that cite at least one of the ‘cost’ reasons for not driving and at least one of the ‘non-cost’ reasons
- Those that cite at least one ‘non-cost’ reason for not driving, but none of the ‘cost’ reasons

Table A2 in the Appendix shows the characteristics of each of these five segments. Members of the ‘cost-only’ segment (mean age 21) tend to be younger than the ‘cost plus non-cost’ (22 years of age) and ‘non-cost-only’ segments (23 years of age). The ‘cost plus non-cost’ segment has a larger share of female members (63%) than the ‘cost-only’ (51%) or ‘non-cost-only’ (47%) segments, and the highest mean level of *personal* income (£8,100). Of young adults that cite costs as a reason for not driving, both personal incomes and incomes earned by other household members are lower for those that cite costs alone (£4,900 and £21,100 respectively), relative to the segment of young adults that indicate both cost and non-cost reasons for not driving (£8,100 and £26,900 respectively). On the basis of this segmentation analysis we can therefore identify the presence of two distinct groups of young people that indicate that costs deter them from driving – one group that is less well-off financially and that report that costs alone are the primary deterrent, and one that is somewhat better-off and that indicates that other reasons also apply.

Mean personal incomes are lower for all of the non-driving segments (including those indicate that they are learning to drive) than for the fully-licenced group of young adults, but the ‘learning to drive’ segment has the highest mean level of income earned by other household members. The employment rate is higher amongst young adults with a full car driving licence (81%) than any of the not-fully-licenced segments (values range from 35% to 56%).

Young adults in the ‘non-cost’ reason(s) segment are the most likely to have born outside of the United Kingdom, and also the most likely to reside in London (Britain’s largest city).

Whilst the NTS data do not provide us with all family relationships within a household, we constructed two variables to serve as proxies for whether a young adult lives with either their own children or their parents. These constructed variables are, respectively, whether the oldest child in their household is 15 or more years younger than them, and whether they live with an adult at least 15 years older than them. It was found that members of the ‘learning to drive’ segment were the least likely to live with ‘their own’ child(ren) (according to this definition), and are the most likely to be living with ‘their parent(s)’.

The final analysis with the self-reported data about reasons for not driving brings in information on when young adults expect that they will acquire a driving licence (see Table 2). Here we see that young people that indicate that the main reason they do not drive is that they are too busy to learn, or cite unspecified ‘other’ reasons’, are the most likely to expect that they will learn to drive in the next year. Young people citing costs mainly report that they expect to drive in the 5-10 year timescale – 53%, 63%, and 67% of those citing the costs of learning to

drive, insurance, and buying a car, respectively indicate that they expect to drive within 5 to 10 years. (NB the 'general costs of motoring' category and all others with a sample size of less than 50 are not shown in Table A2). At the far end of the spectrum, those citing safety concerns/nervousness, a lack of interest in driving, or physical/health problems were the most likely to report that it would be more than ten years (or never) before they learn to drive, at 37%, 39% and 67% respectively.

<<Table 2 about here>>

LOGISTIC REGRESSION ANALYSIS

In this section we look at demographic and economic correlates of whether a person has a driving licence or not, using a logistic regression model. As with any cross-sectional regression model the results show statistical association, which cannot be interpreted as unambiguous evidence of causality.

The set of variables we tested includes spatial variables as well as personal and household characteristics (variable definitions can be found in Section 2). The estimation results are shown in Table 3.

<<Table 3 about here>>

We find that, despite young men's rate of licence-holding being higher than young women's, the *ceteris paribus* 'gender gap' in licence-holding is not statistically significant ($p=0.12$). As one gets older (within the 17 to 29 year old age band) there is also an all-else-equal increasing likelihood to hold a licence – for every year older the all-else-equal odds of having a licence increase by 14%. Educational qualifications are positively linked with licence-holding, as is being employed and full-time employment still more so. All of these results are consistent with the literature.

We find no significant association with the presence of 'one's children' in the household, but a negative association with living with 'one's parents' (see definition of proxy variables in Section 2). This latter effect is opposite to that reported in Delbosc/Currie (2013b). We believe it is more intuitively plausible that the independence of living separate from one's parents is linked positively with having a driving licence. Whether these different results are, however, an artefact of differences in analytical approaches, or an indication of different processes at work in different social and geographic contexts, must remain a matter for speculation until further empirical evidence accumulates.

The spatial associations are generally consistent with earlier work (McDonald and Trowbridge 2009). Living in London is negatively linked with licence-holding, but we found no significant relationship with living in other urban settlements in Britain versus rural areas. Greater residential density of the postcode sector where one lives (there are 10,600 postcode sectors in Britain, about one for every 6,000 residents) was negatively associated with licence-holding, and we also find also that proximity to public transport is linked with a greater likelihood of not having a driving licence, with the structural implications for one's mobility that that implies.

We tested for a statistical association between licence-holding and migration status, and found being born outside of the UK to be strongly negatively linked with holding a driving licence. The statistical relationship is that the odds of licence-holding are more than halved (-55%), net of other confounding relationships such as

labour force participation, income level or place of residence. This analysis does not indicate, however, the causal mechanisms for this finding. Possibilities in need of further enquiry include paperwork difficulties, lifestyle preferences, and the unique spatial distribution of social networks and activity patterns (cf. Chatman 2013). There is also the important question (which cannot be directly investigated with British NTS data) of the degree to which this effect is durable or may decay with the length of time one lives in the receiving country, which may well be context-dependent.

We estimated separate statistical relationships between licence-holding and income that is earned by the young adult versus the sum of income from other household members. We found that, in keeping with intuition, one's own income has a stronger relationship with licence-holding (roughly four times as large) than does residual household income, and that both of the associations are positive as we would expect. The implication is that changes in personal income versus earned-by-others-in-household income are likely to be associated with very different changes in a young adult's likelihood of holding a licence.

CONCLUSIONS

In Britain there has been a drop from the historic peak level of young adults' licence-holding that was seen in the early 1990s, and it now appears that in the 2000s the rate has been essentially steady-state, without a clear overall time trend.

The results presented here agree in many respects with the recent literature on the main correlates of young adults' licence-holding.

In Britain there is currently no graduated driving licence scheme as in much of the United States, but the driving tests are difficult and more than a quarter (28%) of unlicensed people under age 30 indicate that they are in the process of learning to drive. As 45% of British adults under age 30 do not have a driving licence, this implies that young British adults are spending a mean of 1.7 years learning to drive after they turn 17 ($28\% * 45\% * 13$ years of age between age 17 and age 29).

In total about half (51%) of unlicensed young people report that they are learning to drive or are put off by the cost of learning, about three in ten (29%) seem to indicate that they are dis-interested in driving, and the remaining fifth cite a wide set of reasons for not driving.

This study reports several results that are made possible by applying novel methods and data to the issue of young adults' licencing. We show that the distinction between main reasons for not driving and secondary reasons appears meaningful, and that earlier studies that do not take this into account may miss important patterns. For instance, over 90% of those citing their health for not driving report that that is the main reason they do not drive, whereas only 13% of those citing the costs of buying a car indicate the same.

We show with a segmentation analysis that there are distinct sub-groups of young non-drivers, even amongst those that cite the costs of driving as deterrents to driving. The members of one of the segments we identified, for instance, cite costs as well as other 'non-cost' reasons for not driving and are relatively well-off financially, and by contrast members of a second segment have lower mean income levels and only cite costs as the reason

they do not drive. An important issue for the future research agenda is to more fully establish the relationship between age and motivations for not driving; there is now for the first time a growing cohort of British adults in their late 20s and early 30s that do not hold a full driving licence (Le Vine and Jones 2012).

On the basis of multivariate logistic regression analysis, we find that being an international migrant to Britain is negatively associated with holding a driving licence, an effect that is net of other confounding effects such as income and place of residence. We suggest a number of plausible reasons why this might be, but further research will be needed to disentangle them. We also found that living with one's parents seems to be associated with a lower propensity to hold a licence, a finding requiring confirmation as it is different than previous results on this question. Finally, we report the new finding that different types of income relate to licence-holding in distinct ways, with one's own income being about four times as salient in this respect as the income of others in one's household. This has important implications for future rates of licence acquisition by young people in Britain, where income growth in the 2000s has been principally amongst adults over age 30, with young women's incomes stagnating and young men's falling in real terms.

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TABLES AND FIGURES

	The main reason	A reason (either main or secondary)	Main ÷ (main + secondary)
Currently learning to drive	28%*	--	--
Cost of learning to drive	23%	36%	63%
Not interested in driving	9%	12%	71%
Family/friends drive me when necessary	8%	20%	42%
Other forms of transport available	7%	17%	39%
Too busy to learn	5%	10%	50%
Physical difficulties/disabilities/health problems	4%	4%	93%
Safety concerns/Nervous about driving	4%	8%	49%
Cost of buying a car	3%	24%	13%
Other	3%	4%	82%
Cost of insurance	3%	23%	13%
Put off by theory/practical test	1%	4%	38%
Other general motoring costs	1%	10%	10%
Environmental reasons	1%	3%	22%
Busy/congested roads	0%	3%	16%
Driving without licence	0%	0%	75%
Too old	0%	0%	0%

* Respondents indicating that they are learning to drive are not asked to self-report any further reasons for not driving

Table 1: Percentage of NTS respondents age 17-29 that indicate each listed reason is the main (or a secondary) reason that they do not drive

	Within the next year	Within the next 5 - 10 years	More than 10 years or never
Physical difficulties/disabilities/health problems	3%	30%	67%
Not interested in driving	12%	49%	39%
Cost of buying a car	27%	67%	6%
Safety concerns/Nervous about driving	28%	35%	37%
Cost of insurance	35%	63%	2%
Family/friends drive me when necessary	35%	53%	13%
Cost of learning to drive	38%	56%	6%
Other forms of transport available	43%	48%	9%
Too busy to learn	64%	35%	1%
Other	67%	19%	15%

Table 2: Percentage breakdown of stated main reasons for not driving (ages 17-29) by NTS respondents' expectations of when they are likely to learn to drive

	Mean parameter estimate	Implied odds ratio	p-value
Intercept	-5.17	--	--
Male gender	0.125	1.13	0.12
Age	0.1307	1.14	<0.01
Employed	0.647	1.91	<0.01
Employed full time	0.406	1.50	<0.01
Holds degree or higher academic qualification	0.94	2.56	<0.01
Presence of children under age 16 in household, with oldest child at least 15 years younger than the young adult	-0.0839	0.92	0.48
Presence of an adult in the household at least 15 years older than the young adult	-0.322	0.72	<0.01
Born outside of the UK	-0.809	0.45	<0.01
Natural log of young adult's own personal income (British pounds)	0.202	1.22	<0.01
Natural log of income of other household members (British pounds)	0.0533	1.05	<0.01
Residence in London	-0.668	0.51	<0.01
Residence in other urban settlements	-0.121	0.89	0.51
Residence in rural areas	Fixed at zero for normalisation		
Natural log of population density of postcode sector (persons/hectare)	-0.140	0.87	<0.01
Walking time (minutes) to nearest public transport stop	0.02067	1.02	0.05
	Null log-likelihood		-2,626.8
	Final log-likelihood		-2,018.7
	Rho-squared (McFadden's)		0.231
	Adjusted rho-squared		0.226

Table 3: Estimation results from binary logistic regression model of whether a NTS respondent age 17-29 holds a full car driving licence

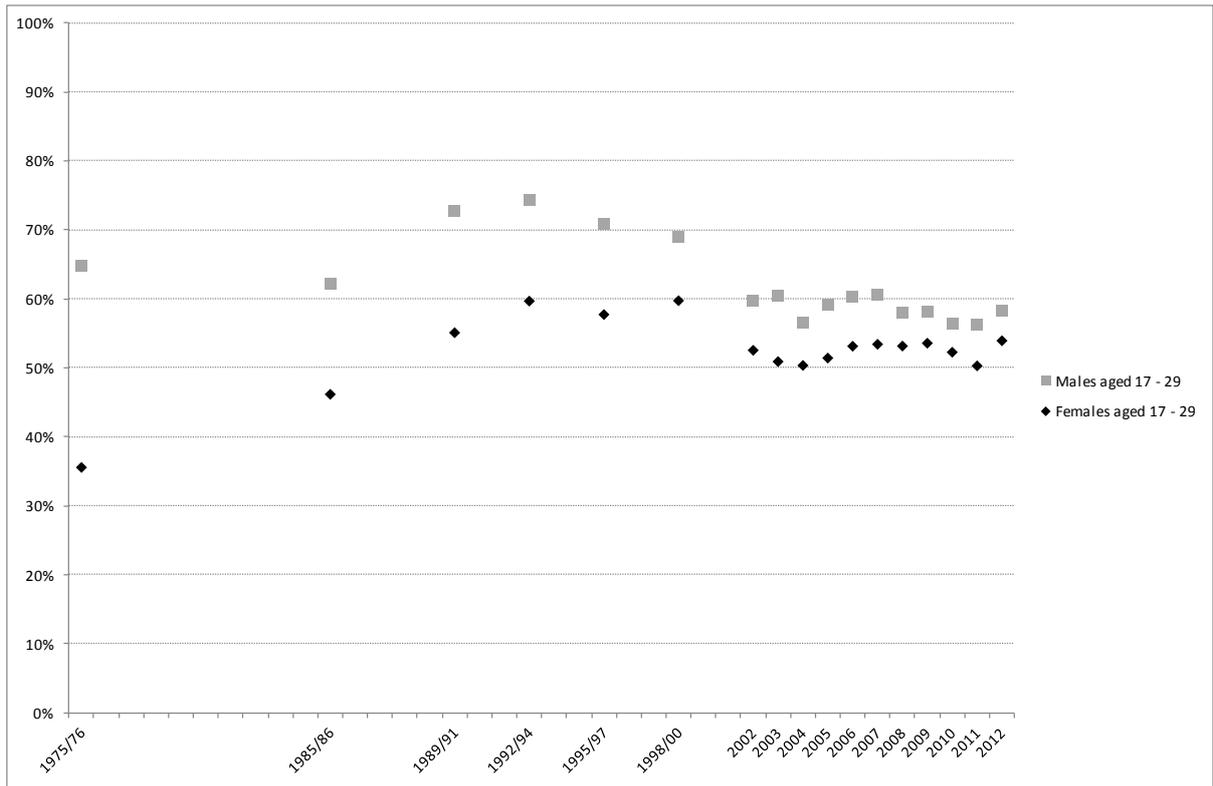


Figure 1: Time trend in percentage of 17-29 year old adults respondents to the British National Travel Survey that hold a full driving licence, separately for men and women

APPENDIX

Table A1: Correlations between reasons that NTS respondents age 17-29 indicate for not driving. Only statistically significant correlations (p<0.05) are shown.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
A: Family/friends drive me when necessary																
B: Other forms of transport available	0.29															
C: Cost of learning to drive	--	--														
D: Cost of insurance	0.08	0.15	0.55													
E: Cost of buying a car	0.08	0.14	0.55	0.79												
F: Other general motoring costs	0.08	0.06	0.34	0.50	0.48											
G: Environmental reasons	0.08	0.22	0.07	0.16	0.16	0.10										
H: Safety concerns/Nervous about driving	0.08	0.08	0.07	0.07	0.12	--	0.12									
I: Physical difficulties / disabilities / health problems	-0.08	-0.11	-0.23	-0.17	-0.17	-0.10	--	--								
J: Too old	--	0.06	--	--	--	--	--	--	--							
K: Too busy to learn	--	0.13	--	--	--	--	0.13	--	-0.09	--						
L: Put off by theory/practical test	0.13	0.08	--	0.07	0.06	0.08	--	--	--	0.15	0.05					
M: Not interested in driving	--	--	-0.26	-0.13	-0.11	-0.06	0.07	--	-0.10	--	--	--				
N: Busy/congested roads	0.09	0.18	0.10	0.18	0.18	--	0.33	0.29	--	--	0.12	0.09	0.07			
O: Driving without licence	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
P: Other	-0.09	-0.10	-0.19	-0.11	-0.11	-0.06	--	-0.07	-0.06	--	-0.07	--	-0.08	-0.05	--	

Table A2: Characteristics of segments of young adults (age 17 – 29), with segments defined by licence-holding status, learning-to-drive status, and aggregated classes of stated reasons for not driving

	Only cost reason(s) cited	Cost reason(s) and non-cost reason(s) cited	Only non-cost reason(s) cited	Young adults learning to drive	Young adults with a full driving licence
Percent of not-fully-licenced young adults that are not learning to drive	28%	28%	44%	--	--
Average age of segment members	21	22	23	21	24
Of segment members, percentage that is female	51%	63%	47%	51%	47%
Of segment members, average annual personal income	£4,900	£8,100	£7,380	£6,900	£15,000
Of segment members, average annual aggregate income earned by all other household members	£21,100	£26,900	£28,000	£37,300	£32,200
Of segment members, the percentage that is employed	35%	56%	44%	54%	81%
Of segment members, the percentage that was born outside of the United Kingdom	12%	17%	29%	13%	12%
Of segment members, the percentage that lives in London	17%	14%	28%	24%	13%
Of segment members, the percentage that lives with 'their own' children (more than 15 years younger)	16%	14%	13%	7%	13%
Of segment members, the percentage that lives with at least one 'parent' (an adult more than 15 years older)	59%	44%	56%	66%	40%
Unweighted sample size	277	273	424	412	1,586