Life Events and Travel Behaviour




Exploring the inter-relationship using the UK Household Longitudinal Study

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1. Introduction

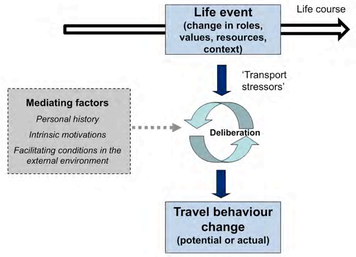
- It is intuitive that people are more likely to *change travel behaviour* at the time of a *major life event* like moving home, changing jobs or having children.
- However, to date there is no evidence on the *proportion of the population* that experiences different life events and change behaviour from year to year. It is also not known under which circumstances a life event is more likely to lead to changes in travel behaviour. This is because *large scale* longitudinal surveys which track the *same individuals over time* are rare.
- This study is taking advantage of *Understanding Society*, which collects data for a representative sample of the UK population, to address two research questions:

2. Research questions

1. To what extent are different life events associated with changes in travel behaviour
2. Under what conditions are life events most likely to result in changes in travel behaviour and why?

3. Concepts

- Life events can trigger change in travel behaviour by altering the *roles* that people perform within their family and social networks, the *values* people hold, the *resources* available for travel and the *context* for travel (Sobal et al, 2006).
- They can thus create 'transport stressors' where there is a discrepancy between desired and actual transport circumstances (Miller, 2005).
- Three types of mediating factor are assumed to play a role in the ultimate outcome on travel behaviour: *personal history* (e.g. experience in using travel modes); *Intrinsic motivations* (e.g., saving money or improving health); and *facilitating conditions* (e.g., public transport availability).



4. Data

- *Understanding Society* is the new UK Household Longitudinal Study, which began in 2009.
- The survey is tracking the lives of members of 50,000 households across the UK. Adult household members are interviewed once every year.
- The survey captures annual data on household car ownership (number of cars owned) and commuting (mode, time and distance), as well as information which enables the occurrence of a wide range of life events to be derived.
- The first two waves of *Understanding Society* have been examined to establish the extent to which changes in car ownership level and commute mode occur at the same time as life events and to examine the circumstances which make changes in travel behaviour more likely.

Spatial context

- *Understanding Society* has been linked to spatial data sets to obtain indicators of neighbourhood context for each survey household, including: Macro-scale spatial structure and population density, indicators of accessibility to employment and services, and indices of multiple deprivation.


5. Methods

Step 1:

- Changes in car ownership level (car increases and decreases) and commute mode switches (to and from commuting by car) were cross tabulated with life events (see Table 3 and Table 4).
- This established the extent to which travel behaviour changes occur at the same time as life events.

Step 2:

- Logistic regression models were estimated to predict car increases and decreases as a function of life events and wave 1 circumstances: including household structure and life stage, socio-demographics, and neighbourhood context.
- The process of model development revealed how household and neighbourhood circumstances influence the relationship between different life events and the propensity for a household to increase or decrease cars.

6. Headline findings

Life events are associated with increased likelihood of both car ownership level and commute mode changes occurring (see Table 3 and Table 4):

- Gaining a driving license demonstrates a strong commitment to both acquiring a car and switching to commuting by car.
- Entering employment is associated with car increases, while losing employment is associated with car decreases.
- Retirement is weakly associated with car decreases.
- Changing employer is associated with switches to and from car commuting.
- Losing a partner is associated with car decreases and switching to non-car commuting for some groups.
- Having children is associated with both car increases and car decreases.

Life events remain significant predictors of increases and decreases in car ownership level after controlling for household structure and life stage, socio-demographics, and neighbourhood context (Table 1):

Table 1: Logistic regression odds ratios for different life events

Life event (experienced by household member)	Increase car	Decrease car
Gained a partner	2.95	0.51
Lost a partner	2.47	5.98
Entered employment from non-employment	1.38	Not sig
Lost employment (excl retirement)	Not sig	1.85
Switched employer	1.43	Not sig
Had child	Not sig	1.53
Gained a driving licence	4.7	0.63
Retired	Not sig	1.59

Odds ratios are provided for illustrative purposes and should be interpreted in the context of the full model results presented in the paper. For example, some life event interaction terms are included in the models but these are not shown here.

Where people live has an influence on their propensity to increase or decrease cars:

- Living in proximity to faster public transport links to employment centres reduces the propensity for people to increase cars.
- Households in areas of higher deprivation are more likely to decrease cars (after controlling for other factors including income and spatial characteristics).
- Car ownership level is adjusted to changes in spatial structure which may occur in association with a residential relocation:

  Urbanising moves are associated with car decreases.

  Ruralising moves are associated with car increases.

Table 2: Percentage of English adults experiencing different life events

Life event	Percentage of English adults	Unweighted sample counts\percentage Yes	No	Total	Percentage
Residential relocation	6.9%	2032	30097	32129	6.3%
Switched employer	6.2%	1770	28388	30158	5.9%
Entered employment from non-employment	5.1%	1621	30522	32143	5.0%
Lost employment (excl retirement)	3.3%	1065	31078	32143	3.3%
Had child	3.1%	939	28655	29594	3.2%
Gained a driving license	2.5%	836	31191	32027	2.6%
Gained a partner	1.6%	473	31678	32151	1.5%
Lost a partner	1.3%	395	31756	32151	1.2%
Retired	1.2%	380	31763	32143	1.2%

Table 3: Percentage of households increasing/decreasing cars with/without life events

Life event (experienced by household member)	Increase car with life event	Increase car without life event	Decrease car with life event	Decrease car without life event
Lost a partner	7.0	9.0	42.8	8.4
Gained a partner	38.6	8.3	14.6	8.9
Gained a driving license	34.1	7.9	5.7	9.2
Residential relocation	14.3	8.5	23.3	7.9
Entered employment from non-employment	15.0	8.4	9.8	9.0
Lost employment (excl retirement)	9.4	8.9	14.6	8.7
Had child	11.3	8.5	11.8	8.7
Retired	6.7	9.0	12.7	9.0

Table 4: Percentage of individuals switching to/from car commuting with/without life events

Life event	From car with life event	From car without life event	To car with life event	To car without life event
Gained a driving license	4.2	5.4	25.8	5.7
Switched employer	11.1	4.6	11.5	5.3
Lost a partner	10.3	5.3	5.4	6.1
Residential relocation	8.9	5.1	9.7	5.9
Gained a partner	9.0	5.3	8.2	6.1
Had child	5.8	5.4	7.4	6.1

7. Developments and next steps

- Separate car ownership models have been developed for car ownership level transition types (0 to 1, 1 to 2, 2 to 3+ cars and vice versa).
- Logistic regression models are being estimated to predict switches to and from car commuting as a function of life events and baseline circumstances: including household structure and life stage, socio-demographics, health and attitudes and neighbourhood context.
- 18 wave data from the previous British Household Panel Survey (1991-2008) is being examined to establish the level of commuting volatility that occurs over the longer term.

University of the West of England, BRISTOL
University of Essex

Ben Clark, Kiron Chatterjee, Steve Melia, Gundi Knies, Heather Laurie

www.travelbehaviour.com

Department for Transport
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