

Table 2 - Summary of independent variables

Theoretical dimension	Independent variable(s)	Type of variable	Source and year	Notes
1. Socio-demographic and economic situation	Household income in Wave 4	Baseline	UKHLS Wave 4 (2012-2013)	Net monthly household income, adjusted for taxes and housing benefits, minus housing costs, equivalised based on OECD 'after housing costs' equivalence scale
	Percent change in total household net income between Wave 4 and 10	Change	UKHLS Wave 4 (2012-2013) and 10 (2018-2019)	Household income was defined in the same way in both waves (see above)
	Tertiary education qualification in Wave 4 and 10	Composite	UKHLS Wave 4 (2012-2013) and 10 (2018-2019)	
	Employment status at Wave 4 and 10	Composite	UKHLS Wave 4 (2012-2013) and 10 (2018-2019)	Retirement is an end state
	Age at Wave 4	Baseline	UKHLS Wave 4 (2012-2013)	
	In a cohabiting relationship in Wave 4 and 10	Composite	UKHLS Wave 4 (2012-2013) and 10 (2018-2019)	Identifies respondents in a cohabiting relationship, regardless of marital status
	Sex at Wave 4	Baseline	UKHLS Wave 4 (2012-2013)	No response category other than "male" and "female" was provided
	Responsibility for children in Wave 4 and 10	Composite	UKHLS Wave 4 (2012-2013) and 10 (2018-2019)	The variable refers to whether the individual is the responsible adult for cohabiting children under 16 years old and is typically non-zero for the female in households with both male and female parents
	Long-standing illness or disability in Wave 4 and 10	Composite	UKHLS Wave 4 (2012-2014) and 10 (2018-2020)	
2. Spatial attributes of the area of residence	Area of residence in Wave 4 and 10	Composite	UKHLS Wave 4 (2012-2013) and 10 (2018-2019)	Based on previous findings on the relationship between urbanity and air travel in England (Mattioli et al., 2021) we distinguish between Greater London and the rest of England
	Population density in LSOA at Wave 4 (1000s persons per hectare)	Baseline	Publicly available data for mid-2013 (ONS, 2018), linked to UKHLS Wave 4 data with LSOA identifiers	
	Change in population density in LSOA between Wave 4 and Wave 10 (1000s persons per hectare)	Change	Publicly available data for mid-2013 (ONS, 2018) and mid-2019 (ONS, 2020), linked to UKHLS Wave 4 and Wave 10 data with LSOA identifiers	A non-zero value can result from either the respondent's relocation or from a change in the population density of the same LSOA (if the respondent has not relocated between waves)

	Travel time to nearest rail station at Wave 4 (mins)	Baseline	Estimate of the time that the household would need to travel by car or public transport to the nearest of 79 English rail stations classed as 'national or regional hubs'. Based on government data on 'journey times connectivity' for 2015, the most recent year for which this statistic is available (DfT, 2021b), linked to UKHLS Wave 4 data with LSOA identifiers	We considered travel time by car for respondents in households with cars, and travel time by public transport for others (based on information on household car ownership drawn from UKHLS).
	Change in travel time to nearest rail station between Wave 4 and Wave 10 (mins)	Change	Due to lack of more recent data, travel time estimates for both waves are based on government data on 'journey times connectivity' for 2015 (DfT, 2021b), linked to UKHLS Wave 4 and Wave 10 data with LSOA identifiers	As for the corresponding baseline variable (see above), we considered travel time by car for respondents in households with cars, and travel time by public transport for others (based on information on household car ownership drawn from UKHLS). A non-zero value can result from the respondent's relocation between waves, from a change in the household car ownership situation, or from both. As values for both waves are based on the same 2015 data, the variable does not capture changes in the accessibility to rail stations that have happened between the two waves for the residents of any given LSOA (as a result of e.g., improvements to transport infrastructure)
	Travel time to nearest large airport at Wave 4 (mins)	Baseline	Based on estimates of travel time by car and public transport from each LSOA to the twelve large airports in England with at least 1% of total UK terminal passengers. The statistics refer to the year 2015, the most recent year for which this information is available in the government data on 'journey times connectivity' (DfT, 2021b), linked to UKHLS with LSOA identifiers	We considered travel time by car for respondents in households with cars, and travel time by public transport for others (based on information on household car ownership drawn from UKHLS)
	Change in travel time to nearest large airport between Wave 4 and 10 (mins)	Change	Due to lack of more recent data, travel time estimates for both waves refer to government data on 'journey times connectivity' for the year 2015 (DfT, 2021b), linked to UKHLS Wave 4 and Wave 10 data with LSOA identifiers	As for the corresponding baseline variable (see above), we considered travel time by car for respondents in households with cars, and travel time by public transport for others (based on information on household car ownership drawn from UKHLS). A non-zero value can result from the respondent's relocation between waves, from a change in the household car ownership situation, or from both. As values for both waves are based on the same 2015 data, the variable does not capture changes in the accessibility to airports that have happened between the two waves for the residents of any given LSOA (as a result of e.g., improvements to transport infrastructure)

	Number of large airports within 60 minutes travel time at Wave 4	Baseline	Based on estimates of travel time by car and public transport from each LSOA to the twelve large airports in England with at least 1% of total UK terminal passengers. The statistics refer to the year 2015, the most recent year for which this information is available in the government data on 'journey times connectivity' (DfT, 2021b), linked to UKHLS with LSOA identifiers	We considered travel time by car for respondents in households with cars, and travel time by public transport for others (based on information on household car ownership drawn from UKHLS).
	Change in the number of large airports within 60 minutes travel time between Wave 4 and Wave 10	Change	Due to lack of more recent data, travel time estimates for both waves refer to government data on 'journey times connectivity' for the year 2015 (DfT, 2021b), linked to UKHLS Wave 4 and Wave 10 data with LSOA identifiers	As for the corresponding baseline variable (see above), we considered travel time by car for respondents in households with cars, and travel time by public transport for others (based on information on household car ownership drawn from UKHLS). A non-zero value can result from the respondent's relocation between waves, from a change in the household car ownership situation, or from both. As values for both waves are based on the same 2015 data, the variable does not capture changes in the accessibility to airports that have happened between the two waves for the residents of any given LSOA (as a result of e.g., improvements to transport infrastructure)
	Annual passengers at nearest large airport at Wave 4 (millions)	Baseline	Nearest large airport identified based 'journey times connectivity' data for 2015 (DfT, 2021b) as described above, linked to UKHLS with LSOA identifiers. Number of annual passengers at nearest airport taken from Civil Aviation Authority data for 2012 (CAA, n.d.)	Only the twelve large airports in England with at least 1% of total UK terminal passengers were considered. The nearest large airport was identified considering travel time by car for respondents in households with cars, and travel time by public transport for others (based on information on household car ownership drawn from UKHLS)
	Change in annual passengers at nearest large airport between Wave 4 and Wave 10 (millions)	Change	Due to the lack of more recent data, the nearest large airports was identified in both waves based on government data on 'journey times connectivity' for the year 2015 (DfT, 2021b), linked to UKHLS Wave 4 and Wave 10 data with LSOA identifiers. Number of annual passengers at nearest airport taken from Civil Aviation Authority data for 2012 (CAA, n.d.) and 2018 (CAA, 2022)	As for the corresponding baseline variable (see above), we considered travel time by car for respondents in households with cars, and travel time by public transport for others (based on information on household car ownership drawn from UKHLS). A non-zero value can result from the respondent's relocation between waves, from a change in the household car ownership situation, from a change in passenger numbers at the nearest airport, or from a combination of these factors
3. Migration and ethnic background	Migration generation	Baseline	UKHLS Wave 4 (2012-2013)	We distinguish between recent first-generation migrants (born abroad, arrived in the UK in the 5 years prior to Wave 4), other first generation (born abroad, arrived earlier), second and third generation (parents or grandparents born abroad), and "fourth generation or more" (all others, including a few respondents with incomplete information)

	Ethnic group	Baseline	UKHLS Wave 4 (2012-2013)	Based on respondent self-identification. We distinguish between White British and the main ethnic minority groups in UK
4. Spatial dispersion of social networks	Friends outside of local area in Wave 3 and 9	Composite	UKHLS Wave 3 (2011-2012) and Wave 9 (2017-2018)	The definition of 'local area' was left up to the respondent. As this variable is not included in Wave 4 and 10, we use information collected from the same respondents in Wave 3 and 9, i.e., one year earlier than the other variables. It is reasonable to assume that the social network dispersion situation impacts the number of flights one takes over the next twelve months (corresponding to the period between two subsequent waves). However, the variable does not capture any change to friendship networks that happened in the 12 months between Wave 3 and 4, and between Wave 9 and 10 (e.g., because of death or relocation of friends or new friendships made), which limits their accuracy to some extent
	Close family abroad in Wave 3 and 9	Composite	UKHLS Wave 3 (2011-2012) and Wave 9 (2017-2018)	The variable indicates whether any close relative (parents or children) lived abroad at the time of the Wave 3 and Wave 9 interviews. Similar considerations apply as for the previous variable (see above)
5. Car ownership	Household cars in Wave 4 and 10	Composite	UKHLS Wave 4 (2012-2013) and 10 (2018-2019)	Whether the respondent's household owned or had continuous use of cars or vans at the time of the interviews
6. Pro-environmental attitudes and behaviour	'Green self-image' at Wave 4 (z-score)	Baseline	UKHLS Wave 4 (2012-2013)	Single Likert scale item, standardised. Respondent's self-assessment of how 'environmentally friendly' their current lifestyle is. Based on Welsch et al. (2021), Binder & Blankenberg (2017) and Melo et al. (2018).
	Change in 'green self-image' between Wave 4 and 10 (difference in raw scores)	Change	UKHLS Wave 4 (2012-2013) and 10 (2018-2019)	
	'Climate change concern' at Wave 4 (score)	Baseline	UKHLS Wave 4 (2012-2013)	Three-point index obtained by adding up two binary variables on whether the respondent expects the UK to be affected by climate change over the next 30 or 200 years. Based on Chng et al. (2019)
	Change in 'Climate change concern' between Wave 4 and 10 (difference in raw scores)	Change	UKHLS Wave 4 (2012-2013) and 10 (2018-2019)	
	'Climate change engagement' at Wave 4 (scale, z-score)	Baseline	UKHLS Wave 4 (2012-2013)	Defined by Chng et al. (2019), as "belief in and engagement with climate change issues" (p. 929). Scale based on the sum of the raw scores for three Likert scale items, standardised: "My behaviour and everyday lifestyle contribute to climate change."

				“I would be prepared to pay more for environmentally-friendly products.” “If things continue on their current course, we will soon experience a major environmental disaster.” Agreement was measured on a five-point scale from “strongly agree” to “strongly disagree”
	Change in ‘Climate change engagement’ between Wave 4 and 10 (difference in raw scores)	Change	UKHLS Wave 4 (2012-2013) and 10 (2018-2019)	
	‘Climate change detachment’ at Wave 4 (scale, z-score)	Baseline	UKHLS Wave 4 (2012-2013)	Defined by Chng et al. (2019), as “scepticism of, or lack of interest in, climate change issues” (p.929). Scale based on the sum of the raw scores for six Likert questions, standardised: “The so-called ‘environmental crisis’ facing humanity has been greatly exaggerated.” “Climate change is beyond control - it's too late to do anything about it.” “The effects of climate change are too far in the future to really worry me.” “Any changes I make to help the environment need to fit in with my lifestyle.” “It's not worth me doing things to help the environment if others don't do the same” “It's not worth the UK trying to combat climate change, because other countries will just cancel out what we do” Agreement was measured on a five-point scale from “strongly agree” to “strongly disagree”
	Change in ‘Climate change detachment’ between Wave 4 and 10 (difference in raw scores)	Change	UKHLS Wave 4 (2012-2013) and 10 (2018-2019)	
	Pro-environmental behaviour (home and purchasing) at Wave 4 (z-score)	Baseline	UKHLS Wave 4 (2012-2013)	Based on previous work (Binder & Blankenberg 2017; Chng et al., 2019; Hand 2020; Longhi 2013; Lynn, 2014; Lynn & Longhi, 2011; Melo et al., 2018; Powdthavee, 2020; Roberts et al., 2018; Thomas et al., 2018; Welsch et al., 2021). Scale based on the respondent’s mean score (standardized) on seven questions assessing the frequency of certain behaviours in daily life, introduced by the question “How often you personally do each of the following things?” (frequency measured on a five-point scale): “leave your TV on standby for the night”

				• “switch off lights in rooms that aren't being used” • “keep the tap running while you brush your teeth” • “put more clothes on when you feel cold rather than putting the heating on or turning it up” • “decide not to buy something because you feel it has too much packaging” • “buy recycled paper products such as toilet paper or tissues” Unlike other studies, we exclude from the scale four further items that refer to travel behaviour, as we are interested in the relationship between air travel behaviour (as captured by our dependent variable) and pro-environmental behaviour in other areas of daily life (home and purchasing)
	Change in Pro-environmental behaviour (home and purchasing) between Wave 4 and 10 (difference in raw scores)	Change	UKHLS Wave 4 (2012-2013) and 10 (2018-2019)	

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