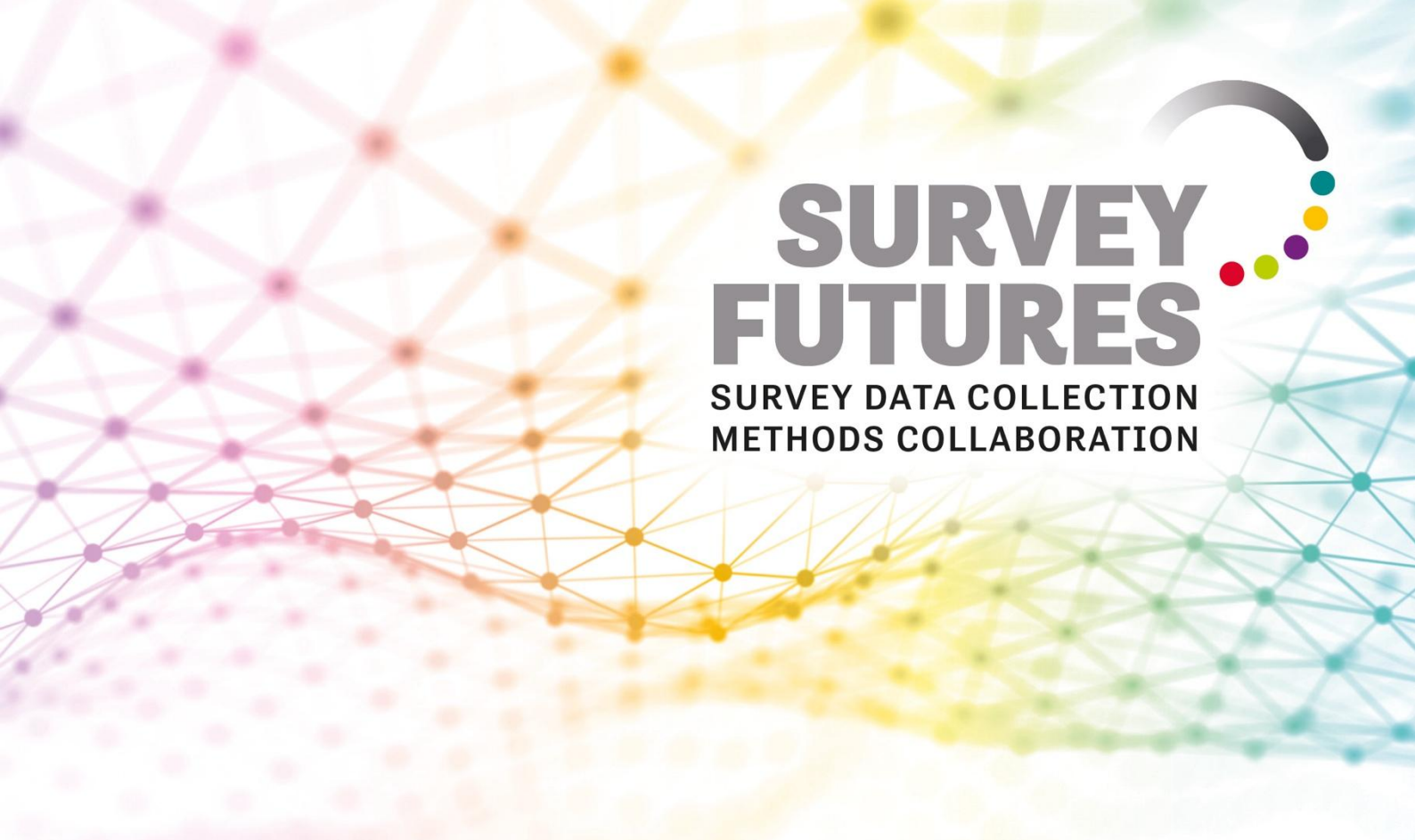




SURVEY FUTURES

**SURVEY DATA COLLECTION
METHODS COLLABORATION**

Report 18: Within-household Selection Methods for Self-Completion Surveys in the UK: Evidence review

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Survey Futures is an Economic and Social Research Council (ESRC)-funded initiative (grant ES/X014150/1) aimed at bringing about a step change in survey research to ensure that high quality social survey research can continue in the UK. The initiative brings together social survey researchers, methodologists, commissioners and other stakeholders from across academia, government, private and not-for-profit sectors. Activities include an extensive programme of research, a training and capacity-building (TCB) stream, and dissemination and promotion of good practice. The research programme aims to assess the quality implications of the most important design choices relevant to future UK surveys, with a focus on inclusivity and representativeness, while the TCB stream aims to provide understanding of capacity and skills needs in the survey sector (both interviewers and research professionals), to identify promising ways to improve both, and to take steps towards making those improvements. *Survey Futures* is directed by Professor Peter Lynn, University of Essex, and is a collaboration of twelve organisations, benefiting from additional support from the Office for National Statistics and the ESRC National Centre for Research Methods. Further information can be found at <https://surveyfutures.net/>.

Research Strand 4 of *Survey Futures* – *Methods for surveys without field interviewers* – led by Professor Olga Maslovskaya (University of Southampton), focuses on the challenges associated with self-completion general population surveys in both cross-sectional and longitudinal contexts. The strand explores ways to optimise design characteristics with the aim of achieving more representative samples of the general population. The main challenges in self-completion general population surveys stem from the absence of field interviewers to facilitate the recruitment and retention of participants and, in the UK context, the lack of a sampling frame of named individuals. Research Strand 4 comprises five sub-projects:

1. Recruitment methods
2. Targeted survey procedures
3. Population subgroups
4. Knock-to-nudge
5. Within-household selection methods

This paper emanates from sub-project 5.

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Contents

Executive summary	5
1 Introduction	6
2 Overview of within-household selection methods.....	8
2.1 Consequences of within-household selection	8
2.2 Methods for within-household selection.....	10
2.2.1 Probability methods.....	10
2.2.2 Quasi-probability methods	12
2.2.3 Non-probability methods.....	13
3 Evidence on the performance of specific within-household selection methods	14
3.1 Birthday methods.....	15
3.1.1 Comparison between birthday and other methods	15
3.1.2 Placement of instructions	19
3.1.3 Calendar and explanatory wording in cover letters	20
3.2 Any adult	22
3.3 Up-to-two	22
3.4 Up-to-four.....	24
3.5 All adults.....	24
3.6 Two-step approach.....	26
4 Performance of different selection methods: Summary of key points.....	27
5 UK survey practice regarding within-household section methods.....	30
5.1 Birthday methods.....	34
5.2 Any-two (or up-to-two)	36
5.3 Up-to-three.....	39
5.4 Up-to-four.....	41
5.5 All adults.....	42
6 Current UK survey practice: Summary of key points	48
7 Summary	49
8 Conclusion.....	51
9 References.....	53
10 Appendix 1: List of surveys.....	58

List of Tables

Table 1: Distribution of household size	31
Table 2: Sample outcomes for the NILT Surveys	35
Table 3: Sample outcomes for the GGS survey	36
Table 4: Sample outcomes for surveys using the any-two method	37
Table 5: Sample outcomes for surveys using the up-to-three method	40
Table 6: Sample outcomes for surveys using the up-to-four method	42
Table 7: Sample outcomes for surveys using the all-adults method	46

List of Figures

Figure 1: Distribution of 145 surveys by agency or organisation as initially considered for this review (comprising surveys with and without interviewers).....	33
Figure 2: Distribution of within-household selection methods used in UK surveys (based on 86 surveys, focussing on only surveys without interviewers)	34

Executive summary

This report reviews the performance of within-household selection methods in self-completion surveys using address-based sampling frames and summarises current UK survey practice. The shift from interviewer-administered to self-completion modes, driven by declining response rates, rising fieldwork costs, and technological advances and accelerated by the COVID-19 pandemic, has increased the importance of effective respondent selection within households in the absence of interviewer control. Selecting a within-household selection method involves balancing trade-offs between probability-based selection, respondent burden and compliance, and operational feasibility and costs.

- No single method performs optimally in all contexts. Differences in response rates are generally small, with less burdensome approaches achieving only marginal gains. More notable differences are observed in sample composition, where most methods underrepresent younger adults, although birthday-based methods tend to reduce gender bias. Performance also varies by household size.
- Selection accuracy and adherence remain key challenges. Verification questions in birthday-based methods improve accuracy but may slightly reduce response rates, while other interventions show little effect. Adherence declines as more respondents are requested per household, particularly in larger households.
- Selecting multiple respondents can improve fieldwork efficiency but introduces clustering, reducing precision and effective sample size. It also increases risks of non-compliance and fraudulent responses. Mitigation strategies can be used in practice, but there is no standard approach and limitations remain.
- UK survey practice varies considerably, with all-adults and any-two adults methods being the most commonly used. Method choice is influenced by survey objectives, household composition, respondent burden, and fraud risk. Practices also differ in response rate estimation, with inconsistent use of standard definitions.
- Overall, the evidence base is limited, with few experimental studies isolating the effects of selection methods. As a result, it is difficult to draw firm conclusions about relative performance.

1 Introduction

General declines in survey response rates and rising costs of interviewer fieldwork, together with technological advances in survey data collection (Charman, Mesplie-Cowan, and Collins 2025; Maslovskaya et al. 2025), among other factors, have led many social surveys to transition, or consider transitioning, from interviewer-administered to self-completion surveys. The pace of this transition was accelerated by the Covid-19 pandemic, which reduced the interviewer field force (Charman et al. 2025), but also resulted in large parts of the population becoming more accustomed to online activities, and the net effect may have been a further shift to web-based methodologies (Smith 2020). This evidence review focuses on web and paper self-completion surveys, that is, surveys that do not use field interviewers. The absence of field interviewers presents several challenges, including difficulties in the random selection of respondents within households (Olson et al. 2019) when individual-level sampling frames are unavailable. This is the case in the United Kingdom (UK), where address-based sampling frames are used to support the sampling of households and individuals (Maslovskaya et al. 2022). In the absence of field interviewers, the responsibility for within-household selection rests with sampled households themselves, giving survey organisations limited control over the process of selecting individual respondents (Olson et al. 2019). This has raised debates about how best to select individuals within households, including identifying the most effective respondent selection method, evaluating trade-offs between different approaches, such as how many individuals should be selected, and assessing their implications for survey outcomes. These outcomes include response or cooperation rates, selection accuracy, demographic representativeness, estimation accuracy, and survey costs (Clark and Steel 2007; Gaziano 2005; Maslovskaya et al. 2022).

The implementation of within-household selection methods can contribute to total survey error in multiple ways (Smyth, Olson, and Stange 2019). Different selection methods have been developed to minimise these errors. First, every eligible member of the household needs to be considered during the within-household selection process (Smyth et al. 2019). If some eligible members are excluded, undercoverage may occur and if specific groups are systematically excluded – and their characteristics relate to the concepts being measured – this will result in increased coverage bias in survey estimates (Groves et al. 2009;

Smyth et al. 2019). Second, assuming all eligible household members are considered, the selection instructions need to be accurately followed. Mistakenly or intentionally selecting the wrong household member can lead to increased sampling error (Smyth et al. 2019). Also, if the selection procedure discourages certain types of households or selected individuals from participating, this would increase the risk of nonresponse bias if non-respondents were systematically different from respondents (Groves et al. 2009). Additionally, practical and cost-related factors also influence the feasibility of implementing selection methods and balancing these factors is essential for efficient and cost-effective data collection.

Within-household selection is a critical source of error in self-completion surveys when individual-level sampling frames are unavailable and address-based samples are used. Household size distribution plays a key role in determining the most appropriate selection method. In one-person households, no selection is required, whereas in larger households the selection process becomes more complex and potentially burdensome. Consequently, methods that simplify selection in larger households, even at some cost to accuracy, may be acceptable in populations with relatively few large households, but less so where larger households are more common. Different methods involve trade-offs between bias, response quality, and feasibility that are not well controlled in the absence of interviewer involvement, making it important to evaluate their performance. Criteria for evaluating these methods include, among others, response rates, sample composition, selection accuracy, adherence, respondent burden, the consequences of selecting multiple respondents within a household on statistical dependence and design effects, and susceptibility to fraudulent responses.

This report aims to collate and review evidence from international literature on the properties and performance of different within-household selection methods for surveys without field interviewers (online and paper surveys) and to summarise current UK survey practices.

The objectives for this evidence review are to:

1. Summarise existing evidence on the performance of different methods of within-household selection for surveys without field interviewers and identify which method may perform best under which scenario/circumstance.

2. Summarise current practices for within-household selection methods used in the UK for surveys without field interviewers.

This evidence review was conducted to inform a survey practice guide aimed at survey practitioners, fieldwork agencies, commissioners, and other stakeholders on how to minimise selection bias, respondent burden, and operational error in within-household selection methods, while preserving probability sampling principles as far as possible and ensuring high-quality cost-efficient data collection.

The remainder of this report is structured as follows: the next section provides an overview of existing within-household selection methods that could be suitable in the self-completion context. The following section provides an overview of within-household selection methods, while the third and fourth sections review and summarise evidence on the performance of different methods based on a review of the literature. The fifth and sixth sections provide an overview of current survey practices in the UK and summarise key points. The final two sections summarise the main insights from the review and highlight implications for survey practice, including for further research.

2 Overview of within-household selection methods

2.1 Consequences of within-household selection

Within-household selection methods have important implications for survey data quality, particularly in terms of selection bias, response behaviour, and representativeness. A central issue identified in the literature is the risk that the individual who ultimately completes the survey may differ systematically from the person who was intended to be selected. This divergence weakens the connection between the sampling design and the realised sample, thereby undermining the validity of inferences drawn about the target population (Olson and Smyth 2014; Smyth et al. 2019).

A key consequence is the potential introduction of selection bias arising from noncompliance with selection procedures. Respondents frequently deviate from prescribed instructions, either through misunderstanding or by allowing a more available or willing household member to participate. In self-completion surveys, the implementation of within-household selection instructions can break down if the first person to open the letter fails to read or understand the instructions, does not enumerate a complete list of eligible

household members, doubts the importance of the selection process, lacks motivation to follow the instructions, or replaces an unwilling selected household member with a more willing member (self-selection) (Olson and Smyth 2014; Smyth et al. 2019). This process of substitution and self-selection tends to favour individuals who are more accessible, cooperative, or engaged, resulting in the overrepresentation of particular demographic groups, such as older or more educated individuals (Olson and Smyth 2014; Olson et al. 2014; Smyth et al. 2019). Such distortions are especially problematic when variables of interest vary within households, as they can lead to systematically biased estimates. Selection accuracy is often low across different approaches, particularly in self-completion surveys where respondents are responsible for implementing the selection process (Marlar et al. 2018; Olson et al. 2014).

Another important implication concerns the relationship between selection procedures and response behaviour. More demanding selection processes are associated with increased respondent burden, which can contribute to higher refusal rates or reduced participation. Conversely, less demanding approaches tend to facilitate participation but are more susceptible to selection error and bias (Jabkowski et al. 2024; Marlar et al. 2018). These dynamics highlight the inherent tension between participation and data quality in the context of within-household selection.

Methods that select multiple respondents per household introduce additional implications for both data quality and survey efficiency. Such approaches can reduce the number of households that need to be sampled to achieve a target number of individual responses within a fixed budget (Purdon and Wood 2022), but they also introduce the risk of homogeneous responses due to clustering effects, as responses from individuals within the same household are likely to be correlated, thereby reducing the precision of survey estimates. In addition, requesting participation from multiple household members may increase perceived burden, particularly in larger households, raising the likelihood of non-adherence or partial compliance, for example, when only one eligible individual responds. These issues may be exacerbated in the case of lengthy questionnaires or sensitive topics. There is also evidence that early respondents within a household may influence the participation decisions of others, potentially discouraging additional responses and negatively affecting overall response rates (Clark and Steel 2007; Purdon and Wood 2022).

Furthermore, selecting multiple respondents may increase the risk of fraudulent completions, particularly when incentives are offered conditional on participation (Cornick et al. 2022; Williams 2019).

In contrast, approaches that select a single respondent per household avoid within-household clustering and may reduce respondent burden, but they introduce other implications. These include higher survey costs, as a larger number of households must be contacted to achieve the desired sample size (Purdon and Wood 2022), as well as increased variation in design weights, since these are inversely related to within-household selection probabilities. This increased variability can lead to a loss of precision, partially offsetting the gains associated with the absence of within-household clustering.

These considerations highlight the importance of the choice of within-household selection approach, as these approaches vary in terms of statistical properties, implementation complexity, susceptibility to bias, and cost. The following section outlines the main categories of within-household selection methods.

2.2 *Methods for within-household selection*

Within-household selection methods can be categorised into three groups based on the probability characteristics of the resulting sample members:

- (1) probability methods,
- (2) quasi-probability methods, and
- (3) non-probability methods (Gaziano 2005).

Each has its own advantages and disadvantages in respondent selection, and these are summarised below.

2.2.1 *Probability methods*

Probability-based methods refer to procedures used to randomly select one (or more) eligible respondents from all members of a sampled household, such that each eligible individual has a known, non-zero probability of selection (Díaz de Rada 2021; Marlar et al. 2018; Smyth et al. 2019). These methods require a complete enumeration of all eligible household members (Gaziano 2005; Olson et al. 2019). Due to their complexity, probability methods are rarely used in surveys without field interviewers and can pose challenges even in interviewer-led surveys (Koch 2018; Smyth et al. 2019). In interviewer-

administered modes, interviewers assist with the enumeration process and then follow systematic procedures or use computerised tools to select a respondent (Olson et al. 2019; Smyth et al. 2019). In self-administered modes, enumeration is conducted by a household informant (Olson et al. 2019).

The main advantage of probability-based methods is their potential ability to minimise selection bias (Díaz de Rada 2021; Olson et al. 2019). The methods can yield consistent, unbiased estimates and have the property of measurability, which is essential in estimating sampling variance from the sample data (Gaziano 2005; Yan 2009). However, their primary drawback is the need for a complete enumeration of all eligible household members (Gaziano 2005; Olson et al. 2019). The enumeration process can seem intrusive and burdensome to respondents, which may result in higher nonresponse bias (Díaz de Rada 2021; Gaziano 2005; Marlar et al. 2018; Olson et al. 2019; Smyth et al. 2019; Yan 2009).

Examples of probability-based methods include the Kish, Rizzo, and full enumeration methods (Gaziano 2005; Marlar et al. 2018). The Kish grid method is the most widely used and known probability-based selection technique in surveys conducted by field interviewers (Díaz de Rada 2021). In households with two or more members, the interviewer first enumerates all household members. Kish (1948) proposed that household members should be listed by sex and decreasing age, that is from oldest to youngest. Based on the total number of eligible members, a preassigned table of random numbers is then used to select the individual to be interviewed (Díaz de Rada 2021; Gaziano 2005). Various simplifications of Kish's original method have been developed by survey agencies, for example listing in alphabetical order of given name to avoid the need to ask sex and age (Jabkowski 2017; Lynn and Lievesley 1991) or using an electronic device to make a random selection, avoiding the need for any ordering principle (Ghirelli et al. 2022). The Rizzo method and its variants were developed to simplify within-household respondent selection while maintaining known probabilities of selection. Unlike the Kish method, respondents are only required to report the number of eligible adults in the household rather than provide detailed information on each eligible household member, thereby reducing respondent burden (Rizzo et al. 2004). The method was developed for and has been used in computer-assisted telephone interview (CATI) surveys (Marlar et al. 2018; Rizzo et al. 2004), but the reduced respondent burden also makes it feasible to implement the Rizzo method and its variants in self-completion surveys.

In households with two or more eligible adults, the reported household size is used to determine the appropriate selection rule, which may, for example incorporate the Kish grid or a birthday method (Rizzo et al. 2004).

2.2.2 *Quasi-probability methods*

Quasi-probability methods are methods that approximate random selection but do not fully ensure known, non-zero probabilities of selection for all eligible members. The methods were developed to avoid the challenges associated with probability-based approaches, particularly the higher refusal rates associated with the household enumeration process (Díaz de Rada 2021; Smyth et al. 2019). Quasi-probability methods are commonly used in both interviewer-led and self-completion surveys due to their ease of implementation and cost-efficiency (Olson et al. 2019; Smyth et al. 2019). In interviewer-administered surveys, selection is conducted by the interviewer, whereas in self-administered modes, respondents follow selection instructions provided in a cover letter (Smyth et al. 2019).

By bypassing the potentially lengthy and intrusive household enumeration process, quasi-probability methods reduce respondent burden, improve cooperation rates, and lower survey costs (Díaz de Rada 2021; Gaziano 2005; Olson et al. 2019; Yan 2009). However, this is at the expense of randomness, as the probability of selection for eligible household members is unknown and some members can self-select or avoid being selected (Díaz de Rada 2021; Gaziano 2005; Marlar et al. 2018; Olson et al. 2019; Smyth et al. 2019; Yan 2009).

Examples of quasi-probability methods include birthday methods, such as the next or last / most recent birthday (Gaziano 2005; Marlar et al. 2018). These methods involve choosing the household member who had the most recent birthday (last birthday), the one with the next upcoming birthday (next birthday), or the one whose birthday is closest to the survey participation request (closest birthday) (Díaz de Rada 2021; Olson et al. 2019). For example, in surveys using the next birthday method, instructions may specify that the adult in the household (aged 18 years or older) with the next birthday completes the questionnaire. Birthday selection methods are quasi-probability methods as, while they assume birthdates are functionally random for the purposes of selecting a respondent within a household (Smyth et al. 2019), births may not be randomly distributed across

months of the year and selection is anchored to the fieldwork period (Gaziano 2005; Olson et al. 2019). This introduces selection bias in households where more than one person is eligible and variables of interest are related to dates of birth or seasons of the year (Gaziano 2005; Smyth et al. 2019) (e.g., health outcomes which have seasonal variations with exposure to infection and environment conditions), unless fieldwork is spread evenly over a whole year, though this bias may be trivial for many of the concepts that social surveys typically attempt to measure (Repke and Felderer 2025).

2.2.3 Non-probability methods

Non-probability methods are procedures for choosing respondents from a sampled household in which selection is not governed by a random mechanism, and individual inclusion probabilities are unknown, with some eligible household members potentially having a low chance of selection (Gaziano 2005; Marlar et al. 2018; Olson et al. 2019; Smyth et al. 2019). These methods were designed to simplify the within-household selection process and reduce costs (Díaz de Rada 2021; Gaziano 2005; Marlar et al. 2018; Yan 2009). They may identify respondents from sampled households based on a demographic criterion or simply allow any available adult to respond (Gaziano 2005; Marlar et al. 2018; Smyth et al. 2019; Yan 2009). Non-probability methods can be applied across any survey mode (Smyth et al. 2019). When interviewers are involved, they may select a specific household member or simply choose an available person. In self-completion surveys, selection instructions can be included in a cover letter, if provided at all (Marlar et al. 2018; Smyth et al. 2019).

Compared to probability-based methods, non-probability methods are less burdensome for respondents, achieve higher cooperation rates, and are more cost-efficient (Olson et al. 2019; Smyth et al. 2019; Yan 2009). Additionally, they are easier to implement accurately (Smyth et al. 2019). A key limitation of non-probability methods is the absence of a true random component, meaning some household members may in practice have a low chance of selection (Gaziano 2005; Marlar et al. 2018; Olson et al. 2019; Smyth et al. 2019). As a result, the statistical theory that links the sample to the target population is limited to the household or address level (Smyth et al. 2019).

Examples of non-probability methods include the youngest male / youngest female among the adults, any adult, any two adults, any three adults, etc (Gaziano 2005; Marlar et al. 2018). For example, instructions for a survey using the any two adults method may ask

that up to two adults in the household (aged 18 years or older) complete the questionnaire. Although these methods are non-probability approaches, this only affects a part of the sample, depending on household size and the number of respondents selected per household. Only when the number of respondents requested to participate per household is fewer than the number of eligible adults in the sampled household does selection become non-random. In such cases, the most cooperative or available household members are more likely to participate (Gaziano 2005). Thus, for example, if a survey encourages up to two adults to participate in each household, it is only amongst households with at least three eligible people that selection bias can arise; if a survey allows any one adult to participate, selection bias can be present amongst households with at least two eligible persons.

3 Evidence on the performance of specific within-household selection methods

Reviewing existing evidence on the performance of within-household selection methods in self-completion surveys using address-based sampling frames is important for assessing data quality risks and understanding trade-offs between bias, response quality, and feasibility that are not well controlled in the absence of an interviewer. To identify evidence on the performance of different within-household selection methods, a systematic literature search was conducted between January – June 2024 to identify research literature on self-completion survey studies that used address-based sampling frames. The search specifically focused on within-household selection methods, including the Kish grid, variations of the birthday and any-adult methods, and how they performed in respondent selection. This involved a search of the Web of Science, Scopus, International Bibliography of the Social Sciences, APA PsycInfo, and Academic Search Ultimate bibliographic databases. The search strategy involved setting out the terms to searching the bibliographic databases and included the following:

- A search in all searchable fields for the terms ‘surv* method*’ AND ‘address-based sampl*’ AND ‘self-administ* surv*’ OR ‘self-complet* surv*’.
- A topic search in titles, abstracts, keyword plus (exact phrases) and author keywords for the terms “mixed-mode surv*” OR “mixed mode surv*” AND “push-to-web” OR “web-push” AND “web surv*” OR “web mode” AND “paper surv*” OR “mail surv*” OR “mail mode”.

- Other keyword searches included the terms ‘within-household selection’, ‘within household selection’, ‘next-birthday method’, ‘last-birthday method’, ‘closest-birthday method’, ‘any adult’, ‘any two adults’, ‘up-to-two adults’, ‘all adults’, ‘youngest adult’, ‘oldest person’, ‘Kish method’, ‘selection accuracy’.

The search was further refined by document type, and included articles, review articles, early access papers, book chapters, as well as proceedings papers. While the focus of this project is the UK, which frequently uses address-based sampling frames for general population studies, the search included literature from other countries that use address-based sampling frames. In addition to England, Northern Ireland, Scotland, and Wales, studies from other European countries, the United States of America, and Australia were considered. Literature was limited to that written in English and published between 2015 to June 2024, although other key literature on within-household selection methods for surveys without field interviewers prior to this period was also considered. This resulted in 3,006 documents being identified for further review.

The documents were then screened by title and abstract to exclude substantive papers. Studies that used non-probability-based sampling of addresses or dwellings were also excluded. This resulted in 118 documents to be considered for a more detailed review, and these are included in the bibliography. The systematic search identified literature including experimental studies used to evaluate different within-household selection methods, and this was supplemented with grey literature. Together, these sources informed the evaluation of method performance.

3.1 *Birthday methods*

3.1.1 *Comparison between birthday and other methods*

Some experimental studies have compared the birthday methods, which are commonly used for ease of implementation, to other within-household selection methods. Williams (2015) investigated the feasibility of sampling all adults in a household using the 2013 – 14 Community Life Survey. The study compared survey outcomes from an experimental web / postal self-completion questionnaire using standard ‘single adult’ versus ‘all adults’ within-household selection methods for respondents aged 16 years or older. For the standard ‘single adult’ design, half of the sampled households were instructed to select adults with the most recent birthday (quasi-probability method), while the other half

selected those with the next upcoming birthday. In contrast, for the 'all adults' design (probability method), all eligible individuals could participate but login details were limited to a maximum of four per household. Estimating the individual-level response rate – accounting for both household and within-household response rates – is not straightforward. For the 'all adults' method, comparable face-to-face interview data were used to estimate the number of adults at sampled addresses (not just responding addresses), yielding an individual-level response rate of 22%. In contrast, the standard 'single adult' design achieved a higher individual-level response rate of 27–28% (Williams 2015).

To assess compliance with participant selection instructions, the questionnaire collected birth month information for each adult resident. Williams (2015) found that a significant number of respondents were not the individual whose birthday matched the selection criteria, indicating that sampling instructions had not been correctly implemented: only 74% of respondents across all households had the correct birthday. Given that around 34% of households in England contain only one person aged 16 or over (Ndebele et al. 2026), this implies that in households where selection was necessary (those with two or more persons aged 16 over), the correct person responded in only around 60% of cases.

Williams (2015) compared the gender / age profile between the standard 'single adult' and the 'all adults' within-household selection methods and found that the 'all adults' design produced a more balanced sample compared to the standard 'single' design. Williams (2015) grouped respondents into six age groups (16–24, 25–34, 35–49, 50–64, 65–74 and 75+). Across the twelve gender and age categories, the summed difference with the mid-2013 population distribution for the 'all adults' design was approximately 17 percentage points, with an average of 1.5 percentage points per category. In contrast, for the standard 'single' design, the summed difference was approximately 30 percentage points, with an average of 2.7 percentage points per category. Williams (2015) found that the gender / age profile for 'all adults' design had a similar error level to the face-to-face sample, which was collected over the same period as the standard 'single' design sample. Furthermore, the proportion of respondents aged 16 – 24 years for the 'all adults' design (9%) was closer to the face-to-face sample (11%) than for the standard 'single' design (6%), although these were still an underrepresentation of the population estimate (14%) (Williams 2015).

Battaglia et al. (2008) evaluated response rates and sample composition for three respondent selection methods for a household mail survey: any adult (non-probability method), adult with the next birthday (quasi-probability method), and all adults (probability method). The study was based on data from the Behavioural Risk Factor Surveillance System (BRFSS), a large-scale survey conducted across six U.S. states. A systematic random sample of residential addresses was drawn from the U.S. Postal Service (USPS) delivery sequence file, with each sampled address randomly assigned to one of the three respondent selection methods. Households assigned to the any-adult, or the next-birthday method were sent one paper questionnaire, while those assigned to the all-adults method were sent three paper questionnaires but could request additional questionnaires if needed.

Battaglia et al. (2008) reported AAPOR Response Rate 4, which incorporates an eligibility estimate for non-respondents with unknown eligibility. They found that the least burdensome method, any adult, yielded the highest response rate (35%), followed by the next-birthday (33%). However, the response rate for the all-adults method consisted of two components. First, at the household level, 33% of the residential addresses had completed at least one questionnaire. Second, at the person level, among those addresses with at least one returned questionnaire, 85% of adults responded. The overall estimated response rate for the all-adults method was the product of these two rates, which was 28%.

In terms of sample composition, Battaglia et al. (2008) found that all three selection methods significantly underrepresented young people aged 18–24 compared with population estimates, although the all-adults method produced estimates closer to benchmarks than the any-adult or next-birthday methods. This likely reflects the tendency for younger individuals to live in larger households, where single-respondent designs reduce their chances of selection. Results for respondents aged 25–34 were more mixed. The next-birthday method produced estimates for males aged 25–34 that were closer to population values than those obtained using the any-adult or all-adults methods, whereas the any-adult method produced the most accurate estimate for females aged 25–34. When household composition was examined, Battaglia et al. (2008) found that the next-birthday method generally produced household-size distributions closest to the population benchmarks, particularly for one- and three-adult households. The all-adults method performed best for

two-adult households, while all three methods significantly underrepresented households with four or more adults.

Olson et al. (2014) conducted an experimental study assessing four within-household selection methods in mail surveys: next birthday, last birthday (both quasi-probability methods), youngest adult (non-probability), and oldest adult (non-probability). The study used two surveys, the 2011 Nebraska Annual Social Indicators Survey (NASIS) and the 2012 Nebraska Trees and Forest Survey. Both targeted adults aged 19 or older but differed in sampling frames, with NASIS using directory-listed landline households and the Forest Survey using a USPS delivery sequence file. Sampled addresses were randomly assigned to selection methods, with identical questionnaires across conditions; NASIS included all four methods, while the Forest Survey included only the next- and last-birthday methods. The NASIS also collected detailed household roster information to assess selection accuracy.

For response rates, both surveys used AAPOR Response Rate 1, which assumes that all non-respondents with unknown eligibility were eligible. In the NASIS, the last-birthday method achieved the highest response rate (39%), followed by the next-birthday and oldest-adult methods (both 37%), though the differences were not statistically significant. The youngest-adult method, however, had a significantly lower response rate (32%) compared to the other conditions. In the Forest Survey, the response rate for the next-birthday method (32%) was slightly higher compared to the last-birthday method (31%), but the difference was not statistically significant (Olson et al. 2014).

Regarding the accuracy of selection for the NASIS mail survey, Olson et al. (2014) found that the next-birthday method yielded a higher rate among all households (71%) compared to the oldest adult (70%), last-birthday (66%), and youngest adult (64%) methods. Additionally, Olson et al. (2014) found that accuracy rates varied based on whether a household had an adult with a birthday during the field period. In such households, accuracy rates were 59% for the last-birthday method and 62% for the next-birthday method, compared to 70% and 78%, respectively, in households without an adult birthday during the field period. However, only the difference in accuracy for the next-birthday method was statistically significant.

Olson et al. (2014) also examined sample composition across selection methods. In the NASIS study, the youngest-adult and last-birthday methods produced proportions of

respondents aged 19–34 that were closer to the population estimate than other methods, but all methods significantly underrepresented this group (15% vs 28%), with even lower proportions for the next-birthday (13%) and oldest-adult (12%) methods. Females were significantly overrepresented across all methods, with the smallest overrepresentation observed for the last-birthday method (58%), followed by oldest-adult (61%), next-birthday (62%), and youngest-adult (65%), compared to a population estimate of 51%. In contrast, the Forest Survey found no significant differences by sex for the last- and next-birthday methods, although the next-birthday method produced a slightly higher proportion of female respondents (54%), while the last-birthday method matched the population estimate (Olson et al. 2014).

3.1.2 Placement of instructions

Other experimental studies investigated the impact of different survey design features for the birthday methods in selecting respondents within households. Olson and Smyth (2017) experimentally tested the effects of alternative placements of within-household selection instructions in the National Health, Wellbeing, and Perspectives Study (NHWPS). The NHWPS is a mail survey of adults aged 18 or older living in the U.S., based on a simple random sample of addresses drawn from a USPS delivery sequence file. Research on within-household selection in mail surveys has highlighted three key factors that hinder accurate selection: confusion about the selection task, concealment of household members, and commitment to being a survey participant (Olson and Smyth 2014). One primary issue contributing to confusion about the selection task is that instructions for selecting a respondent are typically placed in the cover letter, separate from the questionnaire. Placing the instructions at the front of the questionnaire could enhance visibility and accessibility, increasing the likelihood that households follow them correctly. In their study, Olson and Smyth (2017) randomly assigned sampled addresses to one of three methods for presenting instructions for the next birthday method, varying in the level of emphasis and active participation required in the selection:

1. Very passive method – instructions were placed only in the cover letter, asking any adult aged 18 or older with the next birthday to complete the survey.

2. Moderately passive method – instructions were included in the cover letter and a sentence with instructions on the front of the questionnaire.
3. Active method – instructions were included in the cover letter along with an explicit question on the questionnaire asking the respondent to confirm whether they were the household member with the next birthday (Olson and Smyth 2017:691).

Each questionnaire included a household roster listing initials, relationships to the respondent, birthdate (month, day, and year), and sex. This information allowed for an assessment of selection accuracy. Results suggested that, overall, differences in response rates across the three instruction placement methods were not statistically significant. However, the very passive method – where instructions were placed only in the cover letter – yielded a slightly higher response rate (18%) compared to the moderately passive method (17%) and the active method (16%) (AAPOR Response Rate 1) (Olson and Smyth 2017).

Olson and Smyth (2017) examined the accuracy of selection among the three experimental conditions for within-household selection. They found that in households with two or more adults, the active method – which included an explicit question on the questionnaire asking whether the respondent was the household member with the next birthday – resulted in a higher accuracy rate (66%) compared to the moderately passive method (60%) and the very passive method (57%). However, only the difference between very passive and active methods was statistically significant at the 10% significance level (Olson and Smyth 2017).

Regarding sample composition, Olson and Smyth (2017) found that sex and age did not differ significantly across experimental groups (very passive, moderately passive, and active), with all groups deviating from population benchmarks in similar ways. The average deviations from population benchmarks were modest across all methods, at around 9–10 percentage points. The inclusion of a verification question in the active method appeared to reduce error (Olson and Smyth 2017). This might be partly due to the verification question encouraging adherence to the selection instructions resulting in reduced selection bias.

3.1.3 Calendar and explanatory wording in cover letters

Stange et al. (2016) conducted an experimental study to evaluate the impact of including a calendar and explanatory wording in cover letters to help households accurately

follow selection procedures for the next-birthday within-household selection method. The experiments were implemented in two mail surveys: the 2014 NASIS and the 2013 Forest Survey. Both surveys targeted adults aged 19 or older, with samples drawn from a USPS delivery sequence file (Stange et al. 2016).

In their first experiment, the calendar experiment, Stange et al. (2016) tested whether including a calendar in the cover letter would help household informants track household members' birthdays in the NASIS. Each sampled address was randomly assigned to either the 'no calendar' or 'calendar' treatment. Both cover letters contained identical instructions, asking the household member with the next birthday after the first of the month in the fieldwork period to complete the survey. However, the 'calendar' treatment included an additional sentence: "We have printed the calendar ... in case it helps you identify the right person in your household" (Stange et al. 2016:67). Stange et al. (2016) found that response rates, calculated using the AAPOR Response Rate 1, did not differ between the 'no calendar' and 'calendar' treatments (both 27%). Furthermore, Stange et al. (2016) found that including a calendar in the cover letter – intended to help household informants track household members' birthdays – led to less accurate selections compared to not including a calendar. Among households with two or more adults, the accuracy rate was 53% for the 'calendar' group, compared to 63% for the 'no calendar' group, and this difference was statistically significant (Stange et al. 2016).

In their second experiment, the cover letter experiment, Stange et al. (2016) used the Forest Survey and compared a standard version of the within-household selection instruction to a version that provided a detailed rationale and procedures in lay terms. Each sampled address was randomly assigned to the 'standard' treatment which asked that the survey be completed by "the adult ... who will be the next to celebrate a birthday" (Stange et al. 2016:67), or the 'explanatory' treatment which explained the importance of the person who will celebrate the next birthday to complete the survey. Stange et al. (2016) found no significant difference in response rates based on AAPOR Response Rate 1 between the 'standard' and 'explanatory' treatments (30% v 31%), although the 'explanatory' treatment increased the length of the cover letter.

3.2 Any adult

Due to non-compliance with respondent selection instructions within households, an alternative approach is to allow any adult from a sampled household to participate (Cornick et al. 2022b; Gaziano 2005; Olson et al. 2019). This method reduces costs, is less burdensome for household members compared to other methods and may achieve higher response rates. However, it is a non-random selection method in households with more than one adult, as self-selection bias may occur, with the most cooperative and available household members being more likely to participate (Gaziano 2005). This method may be suitable for surveys with questions that can be fully and accurately answered by any household member. However, for most national social surveys, it is unlikely to produce a fully representative sample of the wider population (Cornick et al. 2022b).

As discussed in Section 3.1.1, Battaglia et al. (2008) evaluated the any-adult method alongside the next-birthday and all-adults respondent selection methods in a mail survey. The study found that the any-adult method yielded the highest response rate among the three approaches, reflecting its relatively low respondent burden. However, it generally produced less representative samples than the alternative methods, substantially underrepresenting young adults, particularly those aged 18–24. An exception was females aged 25–34, for whom the any-adult method produced the estimate closest to the population benchmark. Compared with the next-birthday method in particular, the any-adult method also produced less accurate household-size distributions, substantially overrepresenting one-adult households and underrepresenting households with three or more adults.

3.3 Up-to-two adults

The Gambling Commission and NatCen (2023) conducted an experimental study to compare the effects of two different within-household selection methods as part of the Gambling Survey for Great Britain (GSGB). Specifically, the study compared the impact of selecting up to two adults with the most recent birthdays versus selecting up to four adults per household. The GSGB is an annual, repeat cross-sectional survey that is representative of adults aged 18 and over living in private households across Great Britain. It employs a push-to-web methodology, using a stratified random probability sample of addresses drawn from the postcode address file. Issued addresses were randomly assigned to one of two

experimental conditions. In the first condition, up to two adults per household were invited to participate: in households with three or more eligible adults, the two with the most recent birthdays were selected. In the second condition, up to four adults per household were invited to complete the survey. For households with five or more eligible adults, no specific selection instructions were provided – any four adults could take part. Participant burden differed between conditions: in the up-to-two condition, the individual opening the invitation letter was responsible for conducting the within-household selection and inviting the selected adults. In contrast, in the any-four condition, they were potentially tasked with distributing the survey materials to a larger number of adults within the household.

The experiment aimed to determine whether there were significant differences between the two methods that could reduce survey data quality, impact key survey statistics, or contribute to selection bias. The study found no significant difference in household-level response rates – proportion of eligible addresses where at least one adult completed a questionnaire – between the two experimental conditions: 18% for households selecting up to two adults with the most recent birthdays and 17% for those selecting up to four adults. The response rate was calculated based on the assumption that 9% of sampled addresses were non-residential and therefore ineligible to participate in the survey. The results also indicated that increasing the number of adults eligible to participate per household did not necessarily mean those adults will participate. For example, for the any-four condition, among households with four eligible adults, no household completed four questionnaires. The experiment examined the duplication of completed questionnaires, as offering incentives could encourage participants to fabricate household members or submit additional questionnaires to gain extra rewards. However, the study found that duplications accounted for 1% of completions with the up-to-two method and 2% with the up-to-four adults method, with the difference not being statistically significant, although methods for identifying duplication are limited. This suggests that, despite the increased opportunity for households to submit more questionnaires for additional incentives under the up-to-four adults method, this behaviour did not materialise and might be context specific.

The Gambling Commission and NatCen (2023) also examined non-adherence, which occurs when fewer participants take part than intended. The study found that in households with multiple eligible participants, it was harder to ensure full participation. In households

selecting up to two adults, 74% were adherent, meaning two eligible participants took part, while in households selecting up to four adults, only 61% were adherent, and this difference was statistically significant. Additionally, the study examined clustering of gambling behaviour within households and found a greater degree of clustering in households selecting up to four adults compared to those selecting up to two adults. This was expected, as greater participation in multi-adult households increases clustering – since additional participants are likely to share similar behaviours with their fellow household members (Gambling Commission and NatCen 2023).

3.4 Up-to-four adults

As reported above in Section 3.3, the GSGB experimental study found no statistically significant differences in household-level response rates between up-to-four and up-to-two adults, although the response rate for the up-to-four adults selection method was one percentage point lower. There was also no statistically significant difference in the duplication of completed questionnaires between the up-to-two and up-to-four adults methods, despite the increased opportunity for duplication with the up-to-four selection method. However, the experiment found higher levels of non-compliance and clustering with the up-to-four than the up-to-two adults selection method.

3.5 All adults

Williams (2015) evaluated an ‘all adults’ within-household selection approach using the 2013–14 Community Life Survey, alongside a standard single-adult design (please refer to Section 3.1.1 for more details about this study). In the ‘all adults’ design, all eligible household members could participate, although access was limited to a maximum of four login credentials per household. As reported in section 3.1.1, individual-level response rate was estimated to be 22% for ‘all adults’ and 27-28% for the single-adult design, although the ‘all adults’ approach produced a more balanced age–sex distribution.

Williams (2015) also examined whether offering conditional incentives encouraged sampled households to complete more questionnaires than the number of resident adults. He found that individual-level response rates varied between 19 – 22% across households with less than four adults, compared to 33% for four-adult households. The response rate for the four-adult household was considered implausibly high, suggesting that some individuals may have completed multiple questionnaires. To mitigate this issue, Williams (2015)

proposed including a statement in the invitation letter indicating that a proportion of completed questionnaires would be validated through a short interviewer call or visit. Validations could be targeted at all households that returned four questionnaires (Williams 2015).

In an experimental study evaluating push-to-web methodology for mixed-mode surveys using address-based samples, Lynn (2020) examined how to introduce and manage the invitation process for selecting all household members to participate in a survey. Lynn (2020) used data from the recruitment wave for a new sample to refresh the Innovation Panel, a survey for methodological testing and development within Understanding Society: The UK Household Longitudinal Study. Data collection began with the completion of a household grid, which gathers basic details about each current household member.

The experiment included a 'web-first' sample, where selected households were first invited to complete a web interview (though if they did not respond they would later be invited to participate in a CAPI interview). These households were randomly assigned to one of two treatments, differing in when sample members were informed that all eligible household members were expected to participate (Lynn 2020).

- In the 'upfront invite' group, the initial invitation letter included a £10 unconditional incentive and a promise of an additional £15 for each household member aged 16 or older who completed the questionnaire online within three weeks.
- In the 'post-grid invite' group, the initial invitation letter included a £10 unconditional incentive and a promise of an additional £15 if the recipient completed the questionnaire online within three weeks (Lynn 2020).

In both groups, once the household grid was completed – if more than one adult was recorded – a message appeared on-screen inviting the additional household members to take part. The message explained that they would also receive an incentive and provided instructions on how they could obtain their own invitation letters with unique entry codes. For the post-grid invite group, this was the first time the initial respondent became aware that all household members were expected to participate. In contrast, in the upfront invite group, this information was provided in the initial invitation letter (Lynn 2020).

Lynn (2020) found that response rates did not differ significantly between the two groups. However, more household members were recorded in the upfront invite group; 8% of households reported four or more adults, compared to only 1% in the post-grid invite group. This difference was statistically significant. The findings supported the idea that informing recipients upfront about the requirement for all adult household members to participate – while also highlighting the £15 incentive for each person – may lead some respondents to deliberately overstate their household size to receive additional payments. Lynn (2020) suggested that given the ‘post-grid invite’ approach reduces the likelihood of overstating household size, and potentially faking interviews to gain extra incentives – but without reducing response rate – it should be the preferred method.

Results from the study by Battaglia et al. (2008) described in Section 3.1.1 suggested that the all-adults method may improve sample representativeness, but at the cost of lower response rates and higher survey administration burden. In their experiment, households assigned to the all-adults method were initially sent three paper questionnaires but could request additional questionnaires if needed. Battaglia et al. (2008) found that the method yielded the lowest overall response rate of the three approaches, despite achieving a high individual-level response rate among adults in responding households. Compared with the any-adult and next-birthday methods, it generally produced estimates that were closer to population benchmarks for adults aged 18–24 and 25–34. In terms of household composition, the all-adults method provided the most accurate estimate for two-adult households, but it overrepresented one-adult households and underrepresented households with three or more adults. Battaglia et al. (2008) suggested that the performance of the all-adults method could potentially be improved by providing additional questionnaires, although this would increase survey administration costs.

3.6 Two-step approach

In some surveys without field interviewers, a two-step or two-phase process is used to give survey organisations some degree of control over respondent selection within households (Olson et al. 2019). To implement this approach, sampled addresses first receive a screening questionnaire by mail, asking them to enumerate household members via online or paper, and provide information to determine each person’s eligibility. If a household returns the screener and lists at least one eligible person, the survey organisation uses this

information to select one or more eligible members to participate in the survey (AAPOR 2023; Cornick et al. 2022a; Olson et al. 2019). The actual selection method can be random or a birthday method. A limitation of this approach is that it inevitably extends the duration of the survey fieldwork, which could lead to increased survey costs and potentially lower response rates (Olson et al. 2019). This review found no instances of this approach being used in self-completion surveys.

4 Performance of different selection methods: Summary of key points

The following section summarises existing evidence on the performance of within-household selection methods in surveys conducted without field interviewers, highlighting how different approaches perform across key evaluation criteria and under varying conditions:

1. Response rates

- While some selection methods yielded significantly different response rates (e.g., the youngest-adult method versus the birthday methods or the oldest-adult method), evidence overall indicated limited variation in response rates between selection methods.
- The least burdensome method, the any-adult method, had a slightly higher response rate than the more burdensome methods, such as the next-birthday or the all-adults methods, but differences were small.

2. Sample composition

- Although based on a limited number of studies, different within-household selection methods (all-adults, any adult, and the next-birthday method) all tended to significantly underrepresent young people aged 18–24 years. Among this age group, the all-adults method produced male and female proportions that were closer to population estimates than those yielded by the any-adult or next-birthday methods.
- The last-birthday method outperformed other methods in reducing overrepresentation of females. One experiment found that it resulted in the least overrepresentation compared to the oldest-adult, next-birthday, and youngest-adult methods. Another experiment showed that both the last-birthday and

next-birthday methods produced sex distributions that were not significantly different from population estimates.

- In terms of household composition relative to the population benchmark, the next-birthday method more accurately represented households with one adult, three adults, and four or more adults, while the all-adults method more accurately represented households with two adults.

3. Selection accuracy

- For the birthday methods, although including a verification or confirmation question – asking whether the respondent was the household member with the next birthday – resulted in a slight decrease in response rates relative to not including a verification question, the verification question significantly improved selection accuracy.
- In contrast, including a calendar to aid household informants in tracking birth dates of household members or text explaining the rationale behind selection instructions in a cover letter did not improve selection accuracy for the birthday methods.

4. Adherence

- Evidence suggested that in households with multiple eligible participants, it was hard to ensure full participation, particularly in larger households. The method selecting up to two adults had a significantly higher proportion of adherent households compared to the method selecting up to four adults per household.

5. Clustering among households with multiple respondents

- Evidence indicated a greater degree of homogeneity in survey responses – and therefore a greater loss in precision of estimation – with the up-to-four adults selection method compared to selecting up to two adults. This reflects increased within-household clustering, which can lead to higher design effects and a reduced effective sample size.

6. Fraudulent responses

- Evidence comparing single-adult and all-adults designs indicated an increased risk of individuals in the all-adults design completing multiple questionnaires.

- In the context of a push-to-web design requesting all adults in a household to participate, an approach of informing recipients that all household members were expected to participate only after completing a household grid reduced the likelihood of overstating household size, but without reducing the response rate.

In summary, no single method is optimal in all contexts, and ultimately the choice of a within-household selection method requires balancing key trade-offs between maintaining probability-based selection, reducing respondent burden, and ensuring operational feasibility in terms of cost-effectiveness and ease of implementation.

5 UK survey practice regarding within-household selection methods

When using address-based samples, household size distribution plays a key role in determining the most appropriate within-household selection method. To provide context for the discussion of alternative methods, Table 1 presents household size distributions, measured by the number of adults per household, for each of the four United Kingdom countries (England, Wales, Scotland and Northern Ireland), as well as for Great Britain (England, Scotland, and Wales), and the United Kingdom as a whole. Distributions are shown separately for households with adults aged 16 and over, and 18 and over.

Approximately 35% of households in GB or UK had just one individual aged 16+ or adult aged 18+. On the other hand, in GB or UK, around 13% - 14% of households had four or more individuals aged 16+, while approximately 12% had four or more adults aged 18+. However, relatively few households had five or more individuals aged 16+ or 18+ in GB or UK (4% - 5%).

Table 1: Distribution of household size

Number of adults per household	England				Wales				Scotland				Northern Ireland				Great Britain				United Kingdom			
	16 +		18 +		16 +		18 +		16 +		18 +		16 +		18 +		16 +		18 +		16 +		18 +	
	N*	%	N*	%	N*	%	N*	%	N*	%	N*	%	N*	%	N*	%	N*	%	N*	%	N*	%	N*	%
1 adult	70.5	34	70.5	34	4.3	36	4.3	36	10.4	41	10.6	42	2.8	37	2.9	38	85.2	35	85.3	35	88.0	35	88.2	35
2 adults	76.9	37	76.4	37	4.5	38	4.5	38	11.3	45	11.6	46	3.3	43	3.5	45	92.7	38	92.6	38	96.1	38	96.0	39
3 adults	29.9	14	28.9	14	1.7	14	1.6	14	2.4	10	2.1	8	1.0	13	0.9	11	34.0	14	32.6	14	35.0	14	33.5	13
4 adults	20.0	10	18.9	9	1.0	9	1.0	8	0.8	3	0.6	2	0.4	5	0.3	4	21.8	9	20.5	8	22.3	9	20.8	8
5 + adults	10.5	5	9.7	5	0.5	4	0.4	4	0.2	1	0.1	1	0.2	2	0.1	2	11.2	5	10.3	4	11.3	4	10.4	4
Total	207.8	100	204.4	100	12.0	100	11.8	100	25.1	100	25.1	100	7.7	100	7.7	100	244.9	100	241.3	100	252.6	100	249.0	100

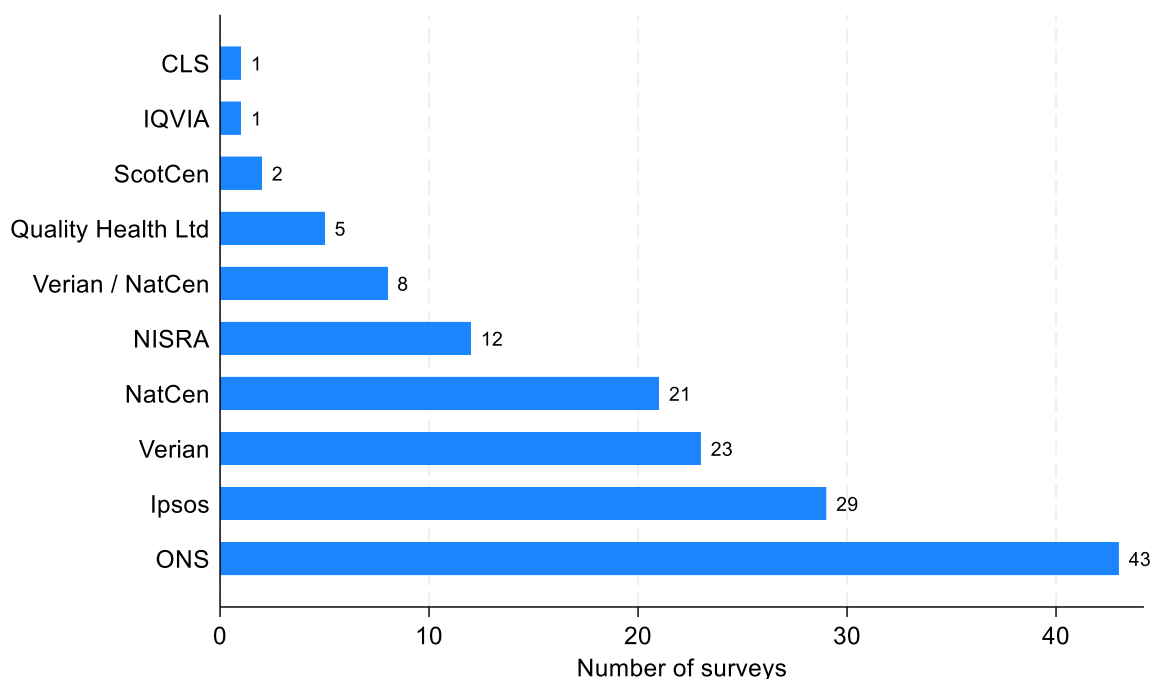
Notes: (*) Number of households in hundreds of thousands (100,000s). Estimates in the 18+ columns exclude households containing no adults aged 18 or over.

Sources: Data were obtained from the UK censuses and provided by the respective national statistical agencies: the Office for National Statistics (ONS) for England and Wales (2021 Census), the National Records of Scotland (NRS) for Scotland (2022 Census), and the Northern Ireland Statistics and Research Agency (NISRA) for Northern Ireland (2021 Census).

This review of current survey practice in the UK was conducted by requesting information from major UK survey agencies or organisations in February 2024 to understand their practices. These organisations included the Centre for Longitudinal Studies (CLS), IQVIA, Scottish Centre for Social Research (ScotCen), Northern Ireland Statistics and Research Agency (NISRA), National Centre for Social Research (NatCen), Verian UK (formerly Kantar Public UK, prior to 2023), Ipsos UK, and Office for National Statistics (ONS). The request focused on high-quality, large-scale probability-based surveys conducted in the UK since January 2019. Specifically, it covered all surveys that were either solely self-completion - online-only (push-to-web), paper-only, or both – or involved a significant proportion of self-administered responses. Both cross-sectional and longitudinal studies were considered, with a focus on self-completion stages for longitudinal surveys and panel studies recruiting fresh samples, excluding face-to-face recruitment stages. Additional inclusion criteria required surveys to target the general population, though those focused on specific age groups or smaller geographic areas were considered if they met the main criteria.

A total of 145 surveys conducted by nine agencies or organisations were considered, including both interviewer-based surveys and surveys conducted without interviewers and different waves of the same survey were counted as separate surveys. The list of surveys is included in Appendix 1. Figure 1 presents the frequency distribution of surveys by agency or organization. In summary, the Office for National Statistics (ONS) conducted the largest share of surveys in this sample, followed by Ipsos UK, Verian (formerly Kantar Public UK), National Centre for Social Research (NatCen), and Northern Ireland Statistics and Research Agency (NISRA). Additionally, some agencies collaborated on fieldwork, notably Verian and NatCen.

Figure 1: Distribution of 145 surveys by agency or organisation as initially considered for this review (comprising surveys with and without interviewers)



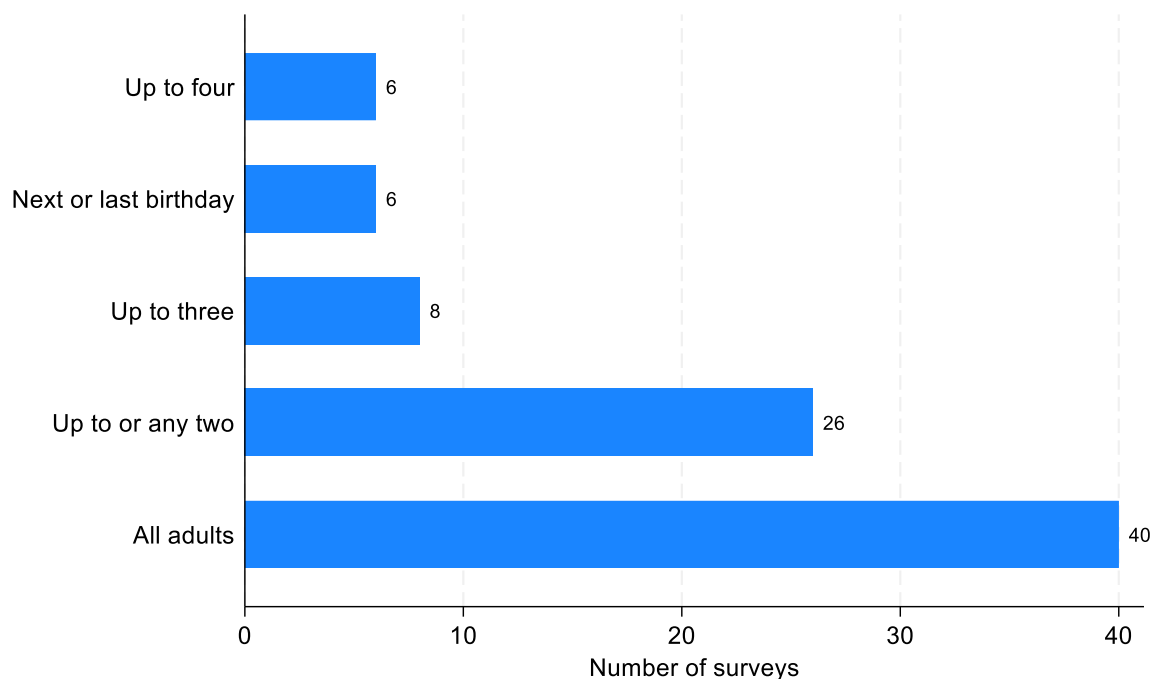
Notes:

Abbreviations: CLS (Centre for Longitudinal Studies); IQVIA (formerly IMS Health; company focusing on intelligence, quality, and vitality in healthcare analytics and clinical research); ScotCen (Scottish Centre for Social Research); NISRA (Northern Ireland Statistics and Research Agency); NatCen (National Centre for Social Research); Verian UK (formerly Kantar Public UK, prior to 2023); Ipsos (Ipsos UK); ONS (Office for National Statistics).

Total surveys: N = 145.

This report focuses on practices in within-household selection methods for surveys without survey interviewers. Therefore, surveys from the initial list were excluded if selection was conducted by field interviewers or if no selection was needed due to the sampling frame being a named list, such as the National Health Service patient register, the child benefit register, birth registration records, or lists of previous survey participants who had consented to follow-up. Figure 2 presents the frequency distribution of selection methods used in the remaining 86 UK surveys considered in this evidence review. The ‘all adults’ method was the most commonly used selection approach among the UK surveys, followed by the ‘up-to-two’ or ‘any-two’ adults method, which was used in more surveys than the ‘next or last birthday’, ‘up-to-three’ adults, and ‘up-to-four’ adults methods combined. There were no instances of the ‘any-one’ method being used in any of the surveys included in this review.

Figure 2: Distribution of within-household selection methods used in UK surveys (based on 86 surveys without interviewers)



5.1 *Birthday methods*

Among the surveys identified by this review, the Northern Ireland Life and Times Survey (NILT) (NILT 2022, 2023a, 2023b, 2024), and the UK Generations and Gender Survey (GGS) (Howe et al. 2023) used the birthday methods.

The NILT is an annual repeat cross-sectional survey of adults aged 18 years or over living in private households in Northern Ireland. From 2020 it used a mixed-mode design consisting of a large-scale CAWI component, supplemented with CATI and CAPI via video calls (NILT 2023a). The survey consists of a systematic random sample of addresses drawn from a postcode address file, with invitations sent to sampled households via mail. Sampled addresses were invited to complete the survey online, alternatively they could call in and book a telephone interview. In terms of the selection of respondents within households, instructions on the invitation letter stated that only the person with the next birthday was eligible to complete the survey online. Additionally, at the beginning of the questionnaire, the participant had to confirm that they were the person within the household with the next birthday. Table 2 below presents the sample outcomes for the NILT surveys, including the

fieldwork period. Response rates were calculated as the number of completed surveys divided by the gross sample. This approach assumes that all nonrespondents with unknown eligibility are considered eligible.

Table 2: Sample outcomes for the NILT Surveys

Survey	Year	Target population (age)	Gross sample	Complete surveys	Response rate (%)	Fieldwork period (days)
Northern Ireland Life and Times Survey	2020	18 years +	15000	1292	9	61
	2021	18 years +	10000	1397	14	71
	2022	18 years +	9500	1405	15	77
	2023	18 years +	8000	1200	15	130

The response rate for the 2020 NILT survey was approximately 9% (NILT 2023a) and this compared with approximately 14% for 2021 (NILT 2023b), 15% for both 2022 (NILT 2022) and 2023 (NILT 2024). There were variations in the fieldwork periods with the 2023 survey taking nearly twice as long compared to surveys in previous years (NILT 2022, 2023a, 2023b, 2024).

The GGS is a nationally representative online study of individuals aged 18 – 59 years (Howe et al. 2023). The study employed a push-to-web methodology, with addresses randomly selected from a postcode address file. Invitation letters were sent by mail, inviting one eligible adult (aged 18 – 59) per household to complete the questionnaire online. In households with more than one eligible adult, a screening process was used considering the birthdays of all eligible household members. If the person with the most recent birthday was also the one conducting the screening, they were prompted to complete the questionnaire themselves; otherwise, they were instructed to pass the device to the adult who had the most recent birthday among all eligible household members. The survey was conducted in two stages to facilitate experimental testing, though the experiments did not alter the within-household selection method. Stage 1 tested the impact of incentives, while Stage 2 examined the use of QR codes and URLs. Table 3 below presents the sample outcomes for the GGS survey. After adjusting for deadwood (invalid addresses) and assumed ineligibility (households with no one aged 18–59), the estimated response rates were 14% at Stage 1 and 16% at Stage 2 (Howe et al. 2023).

Table 3: Sample outcomes for the GGS survey

Survey	Year	Target population (age)	Issued addresses	Complete surveys	Responding addresses	Response rate (%) (Adjusted)
Generations and Gender Study	2022 (Stage 1)	18-59 years	43200	3755	3755	14
	2023 (Stage 2)	18-59 years	41450	4121	4121	16

Note: Adjusted response rates exclude deadwood (invalid addresses) and account for assumed ineligibility among households with no residents aged 18–59.

5.2 *Any-two (or up-to-two) adults*

The any-two (or up-to-two) adults selection method is a non-random within-household selection technique in households with three or more eligible individuals. In the UK, an estimated 25% of households contain more than two adults, and in such cases, this method introduces a risk of self-selection bias (Cornick et al. 2022b; Williams 2019). For the up-to-two approach, birthday-based selection methods can be used to determine which two individuals respond (Cornick et al. 2022b).

The surveys that used the any-two adults method employed a push-to-web methodology, with addresses drawn from postcode address files. Sampled households were contacted by mail, while response modes were either web and paper (Active Lives Survey (ALS), Food and You 2 (FY2), My Life in the Highlands and Islands (LHI), Audience Measurement for Publishers (PAMCo), Public Confidence in Official Statistics (PCOS), Health Survey for England (HSE)) or web and CATI (British Social Attitudes (BSA)). The surveys varied in the ages of their target populations, with individuals aged 15 years or over eligible for the PAMCo, 16 years or over eligible for the ALS, FY2, LHI and HSE, and 18 years or over eligible for the BSA and PCOS. Invitation letters requested any two or up to two people to complete the survey and contained two login details to access the web questionnaire, with paper questionnaires sent in later reminders for non-respondents for the web and paper surveys, while for the BSA, respondents had the option of conducting the survey by CATI. On the other hand, for the PAMCo, non-responsive households received in-person visits by interviewers, who conducted household enumeration of individuals aged 15 years or over and used a grid system to identify individuals for interview who were encouraged to

complete the questionnaire online or on paper. Table 4 below shows the sample outcomes for the surveys that used the any-two adults method.

Table 4: Sample outcomes for surveys using the any-two adults method

Survey	Year	Target population (age)	Issued addresses	Complete surveys	Responding addresses	Response rate (%)		Participating adults per household
						Unadj	Adj	
Active Lives Survey	2018-19	16 years +	702781	181535			20	
	2019-20	16 years +	578546	177735			22	
	2020-21	16 years +	564614	177273			23	
	2021-22	16 years +	600638	177551			23	
Food and You 2	Wave 1: 2020	16 years +	21053	9319	6408	30		1.45
	Wave 2: 2021	16 years +	13922	5900	3955	28		1.49
	Wave 3: 2021	16 years +	14115	6271	4335	31		1.45
	Wave 4: 2022	16 years +	14115	5796	4026	29		1.44
	Wave 5: 2022	16 years +	16115	6770	4727	29		1.43
	Wave 6: 2023	16 years +	14500	5991	4175	29		1.43
	Wave 7: 2023	16 years +	14500	5812	4006	28		1.45
British Social Attitudes	2020	18 years +	22140	3964	2898		14	1.37
	2021	18 years +	36898	6250	4780		14	1.31
	2022	18 years +	36900	6909	4831		15	1.43
	2023	18 years +	30436	5578	4404		16	1.27
PAMCo	2021	15 years +	53250	19790	16839		33	1.18
	2022	15 years +	51104	23573	19328		38	1.22
	2023	15 years +	40796	13182	9959		38	1.32
PCOS	2021	18 years +	11067	3398	2379		18 ^a 24 ^b	1.42
	2023	18 years +	8800	2364	1695		16 ^a 21 ^b	1.39
LHI	2022	16 years +	18087	5301	4442	25		1.19
HSE	2020/2021	16 years +	19500	5778	4465		17 ^a 25 ^b	1.29

Notes: (a) personal level response rate. (b) household level response rate. Unadjusted response rates are calculated using all issued addresses in the denominator. Adjusted response rates exclude invalid addresses and account for assumed ineligibility among households.

The selection of any two adults in each household makes it difficult to calculate an individual response rate, as the number of adults in non-participating households is unknown, although this can be estimated from external population benchmarks. For the ALS, the response rate was calculated as the proportion of sampled addresses that responded, adjusted by an estimated eligibility rate. While the ALS reported the total number of individual respondents, the number of responding addresses was not clearly specified.

The response rates for the FY2 and LHI surveys were also estimated as the proportion of sampled addresses that responded, but these were not adjusted for eligibility. In contrast, the BSA considered eligibility in its response rate calculations and reported both unadjusted and adjusted response rates. For PAMCo, response rates were calculated as the number of households with at least one respondent, divided by the total number of sampled addresses, excluding ineligible ones.

The PCOS estimated both household and individual level response rates. The household response rate was calculated similarly to other surveys – as the percentage of responding households – but assumed that approximately 9% of addresses were non-residential and therefore ineligible. The individual-level response rate was based on the number of eligible adults who completed the survey, assuming an average of 1.9 adults per household. Similarly, the HSE reported an adjusted address-level response rate, assuming 10% of addresses were ineligible, along with an adjusted individual-level response rate.

In contrast, to other surveys that selected any two adults, the Gambling Survey for Great Britain (GSGB) specifically selected the two adults with the most recent birthdays in households with more than two eligible adults (Gambling Commission and NatCen 2023, 2024). The GSGB employed a push-to-web methodology and aimed to be representative of adults aged 18 or over living in private households across Great Britain. It is a repeat cross-sectional survey conducted annually, using a stratified random probability sample of addresses drawn from a postcode address file. For the 2023 survey, sampled addresses received an invitation letter by mail, containing login details to access the online questionnaire. Paper questionnaires were included with the second reminder. A small proportion of sampled addresses (approximately 1%) from the postcode address file may contain more than one dwelling and/or household. However, in the absence of field

interviewers, randomly selecting households within multi-occupied addresses is challenging, as there is no control over which household opens the invitation letter. As a result, for the GSGB, the Gambling Commission and NatCen (2023) left household selection to chance, based on whichever household opened the letter. Given the small proportion of multi-occupied addresses, the likelihood of systematic error affecting the responding sample was considered low (this applies to all other surveys). At each address, up to two adults were invited to participate. If a household contained more than two adults, those with the most recent birthdays were instructed to complete the questionnaires. Despite this, the slight inefficiency caused by clustering may be outweighed by the number of productive cases achieved by inviting up to two adults per household instead of just one. The GSGB for 2023 achieved an address-level response rate of approximately 18% (up to two adults) (Gambling Commission and NatCen 2024).

5.3 Up-to-three adults

Similarly to the any-two (or up-to-two) adults selection method, the up-to-three adults selection method is a non-random within-household selection technique in households with more than three eligible individuals. Of the sample of UK surveys considered in this review, the Adult Oral Health Survey (AOHS) (Office for Health Improvement and Disparities 2023), the Financial Lives Survey (FLS) (FCA 2021; NatCen and FCA n.d.), and the Individuals, Small Business and Agents Customer Survey (Individuals Customer Survey) (HMRC 2019, 2020, 2021, 2022, 2023) all employed the up-to-three adults within-household selection method. The AOHS and the Individuals Customer Survey targeted individuals aged 16 years or older, whereas the FLS required participants to be at least 18 years old. These surveys used a postcode address file sampling frame, though the Individuals Customer Survey augmented this with household structure data from CACI Ltd, a data and technology company that uses proprietary datasets to model detailed population profiles, helping organisations identify and segment target audiences. These models are then used to augment sampling frames for surveys to enable stratification or over-sampling. All three surveys used a push-to-web methodology, sending mail invitations for respondents to complete the survey online. The FLS and AOHS provided three unique access codes per household, allowing up to three adults to participate. However, in the Individuals Customer Survey, the number of logins (two or three) varied based on household data from CACI. If

CACI estimated that only one adult aged 16 or older resided in the household, only two logins were provided instead of three. While the AOHS and the Individuals Customer Survey supplemented the web questionnaire with paper questionnaires, the FLS used CAPI for non-respondents to the web questionnaire for the 2020 survey and CATI for the 2022 survey. Table 5 below shows the sample outcomes for the surveys that used the up-to-three adults method.

Table 5: Sample outcomes for surveys using the up-to-three adults method

Survey	Year	Target population (age)	Issued addresses	Complete surveys	Responding addresses	Response rate (%) (Adjusted)	Participating adults per household
Adult Oral Health Survey	2021	16 years +	19286	6321	4429	18 ^a 24 ^b	1.43
Financial Lives Survey	2020	18 years +	238438	15713	11714	4 ^a 5 ^b	1.30
	2022	18 years +	255000	19555	16225	5 ^a 7 ^b	1.21
Individuals, Small Business and Agents Customer Survey (Individuals)	2018	16 years +	16750	2884		10	
	2019	16 years +	7120	2736		9	
	2020	16 years +	19177	2994		9	
	2021	16 years +	12315	1571		7	
	2022	16 years +	10200	1401		8	

Notes: (a) personal level response rate. (b) household level response rate. Adjusted response rates exclude invalid addresses and account for assumed ineligibility among households.

Similar to some surveys that selected any two adults, the AOHS and the FLS estimated both household and individual level response rates. The household response rate was defined as the percentage of households contacted in which at least one interview was completed, while the individual response rate was the estimated proportion of eligible adults who completed the survey. The AOHS estimated that approximately 4% of addresses were ineligible and assumed that responding households had an average of 1.88 adults. In contrast, the FLS estimated that around 8% of addresses were ineligible and assumed an average of 1.8 adults per responding household. For the Individuals Customer Survey, it was assumed that each residential address housed an average of 1.9 people aged 16 or older, and that 91% of sampled addresses were residential.

5.4 Up-to-four adults

The up-to-four adults selection method was used in the Survey of Londoners (Cant et al. 2022; Cornick et al. 2019), the High Street Heritage Action Zones (HSHAZ) survey (Historic England and Kantar Public 2021), the Public Voice: Recruitment Surveys (1, 2, and 3) (Kantar Public 2022), and the GSGB experimental study on gambling participation (Gambling Commission and NatCen 2023). The target population for the Survey of Londoners included individuals aged 16 years or older residing in London, while for the HSHAZ this included those aged 16 or older living in England. The Public Voice Recruitment Surveys were open to individuals aged 16 or older across the UK, while the GSGB was limited to adults aged 18 or older within Great Britain. Samples for the surveys were drawn from postcode address files, while the sample frame for the Public Voice Recruitment Surveys was augmented with address-level data, specifically counts of the number of people living at each address by age group, provided by the data aggregator company CACI. The surveys used push-to-web methodology, where letters were mailed to sampled addresses, inviting respondents to complete the survey online.

The invitation letters for the Public Voice Recruitment Survey, HSHAZ and the Survey of Londoners noted that paper questionnaires were available upon request for those unable to participate online. Otherwise, if households did not respond online, paper questionnaires were sent with later reminders. Invitation letters for the Survey of Londoners, HSHAZ, and GSGB included four unique access codes or login details, allowing up to four individuals per household to participate (Cant et al. 2022; Cornick et al. 2019; Gambling Commission and NatCen 2023; Historic England and Kantar Public 2021). For the Public Voice Recruitment Survey, four sets of survey login details were generated, which were sufficient for all but the largest and most cooperative households. However, to reduce the risk of duplicate responses from the same individual, not all logins were included in the mailed letters. Instead, CACI data was used to determine how many logins to provide based on the estimated number of adults at each address. If CACI estimated only one individual aged 18 or older resided at the address, two of the four logins were included in the letter. If CACI estimated two individuals aged 18 or older resided at the address, three of the four logins were included. For all other addresses, all four logins were provided, and this was the case in only 12% of sampled

addresses (Kantar Public 2022). Table 6 below shows the sample outcomes for the surveys that used the up-to-four adults method.

Table 6: Sample outcomes for surveys using the up-to-four adults method

Survey	Year	Target population (age)	Issued addresses	Complete surveys	Responding addresses	Response rate (%)		Participating adults per household
						Unadj	Adj	
High Street Heritage Action Zones	2021	16 years +	15313	4035		13		
Survey of Londoners	2018/19	18 years +	22000	6601	4688	18 ^a		1.41
						24 ^b		
	2021/22	18 years +	34371	8630	6347	15 ^a		1.36
Public Voice: Recruitment Surveys						20 ^b		
	2019/20	16 years +	18251	2306	1695	7		1.36
	2020	16 years +	58383	9447	6431	9		1.47
	2021	16 years +	89566	19800	13837	10		1.43

Notes: (a) personal level response rate. (b) household level response rate. Unadjusted response rates are calculated using all issued addresses in the denominator. Adjusted response rates exclude invalid addresses and account for assumed ineligibility among households.

For the HSHAZ survey, the number of responding addresses was not reported. Although the survey provided an individual response rate, it is unclear how this was calculated. The Survey of Londoners estimated both household and individual-level response rates. The household response rate was defined as the percentage of sampled households in which at least one interview was completed. The individual response rate represented the estimated proportion of all eligible adults who completed the survey. The survey assumed that approximately 10% of addresses were non-residential and therefore ineligible, and it reported both unadjusted and adjusted response rates. For the individual-level estimate, the average household size was assumed to be 1.9 adults. In contrast, the Public Voice Recruitment Survey reported only the adjusted individual response rate. This estimate was based on the assumptions that 92% of sampled addresses contained at least one household and that an average of 1.9 people aged 16 or older resided at each address.

5.5 All adults

This selection method is useful when the goal is to collect information from all household members (Olson et al. 2019). However, in some surveys, the all-adults selection

method is used to avoid the complexity and risk of selection error associated with remote random sampling within households (DCMS and Kantar Public 2022; Department for Business, Energy and Industrial Strategy 2022; Department for Energy Security and Net Zero 2023). Additionally, for practical reasons, in some push-to-web surveys the number of login details provided in invitation letters is limited to a maximum of four as only approximately 1% of households in the UK contain more than four adults (Cornick et al. 2022b) and in practice, only a small number of these households end up providing more than four responses.

The all-adults selection method was used in a plurality of UK surveys considered in this review, although some surveys were conducted more frequently than others, such as the Labour Force Survey. The Public Attitudes Tracker, Participation Survey, Community Life Survey, and Attitudes to Mental Illness surveys used a push-to-web methodology (web or paper), in which each sampled address received an invitation letter containing a unique login and the survey website URL. The Participation Survey and Community Life Survey also included a QR code. In all of these surveys, all resident adults aged 16 and over at each sampled address were invited to participate. The postcode address file used for sampling was augmented with modelled data from the data supplier CACI, which estimated the expected number of resident adults per address. This modelled data was used to determine the number of logins provided per household. While not perfect, it has been shown to be useful in distinguishing between predominantly younger or older households. For practical reasons, the number of logins included in the invitation letters was limited, however there were variations in how this was implemented across surveys. Addresses predicted to contain one adult were allocated two logins; those predicted to have two adults received three logins; and all other addresses were given four logins. Households could request additional logins if they had more eligible residents than predicted, but no more than four logins were issued per household. Empowering Places, a 'hyperlocal' version of the Community Life Survey, focused on five specific local areas while using the same methodology. However, the sampling frame was not augmented with CACI data and invitation letters included three logins, but more could be requested for larger households.

The Health Survey (Northern Ireland), Travel Survey for NI, Scottish Health Survey, Family Resources Survey, and Labour Force Survey employed a mixed-mode methodology,

where households were contacted by mail and invited to opt into a telephone interview (CATI). For the 2020 Travel Survey for NI and the 2020/21 Health Survey (NI), while Covid-19 restrictions were in place, invitations were sent solely by post, asking sampled households to phone in or use a digital form (or access an online portal) to express interest in participating in CATI. In contrast, the 2021 Travel Survey for NI, the 2021/22 Health Survey (NI), the Scottish Health Survey, the Family Resources Survey, and the Labour Force Survey incorporated a knock-to-nudge approach after Covid-19 restrictions were lifted in July 2021, which meant fieldworkers could call again at sampled addresses to encourage people to participate while adhering to social distancing advice. In this method, fieldworkers visited addresses to collect contact details in person, enabling the survey to proceed via CATI at an agreed time. This might explain the increase in response rate for the 2021/22 Health Survey (NI) compared to 2020/21. Additionally, the Family Resources Survey and Labour Force Survey employed tele-matching to obtain phone numbers by linking sampled addresses to external databases (e.g. the Department for Work and Pensions' internal records and other administrative systems, but commercial services are also available), allowing access to both landline and mobile contact information. Regarding participant selection, all individuals aged 16 and over were eligible for the Health Survey (NI), Scottish Health Survey, Family Resources Survey, and Labour Force Survey. However, the Family Resources Survey excluded those aged 16 to 19 who are classed as dependent children (e.g., full time education). In the Scottish Health Survey, up to two children aged 0–15 years were also eligible. In the households with children, interviewers screened for those aged 0–15 years and randomly selected up to two for interview. A maximum of ten adults could participate per household. Lastly, the Travel Survey for NI collected travel information for all household members, regardless of age.

Understanding Society: The UK Household Longitudinal Study also used the all-adults selection method and is a major longitudinal household panel survey that began in 2009. Wave 14 (2022–2024) included a Boost Sample, in which a new general population sample was added to the study and ran in parallel with the main survey. Understanding Society also includes Innovation Panel studies – surveys used for methodological testing and development within the broader study. This evidence review includes the refreshment samples recruited and added to the Innovation Panel at Wave 11 (2018) and Wave 14

(2021). Samples for these surveys were drawn from the postcode address file, and the surveys employed a mixed-mode methodology in which households were contacted by mail and assigned to either web-first or CAPI-first groups. In terms of within-household selection, these surveys implemented a two-step approach. First, each sampled household completed an online enumeration questionnaire to confirm who was currently living at the address. Second, once one adult in the household had completed the household grid online, if there was more than one adult in the household, a message appeared on screen inviting other eligible members to participate. All resident adults aged 16 and over were eligible. The invitation was sent as a printed letter and included the online questionnaire URL and unique login details for each participant.

The Public Attitudes Tracker, Participation Survey, Community Life Survey, Empowering Places, and Attitudes to Mental Illness surveys reported adjusted individual response rates. These rates assumed that 92% of sampled addresses contained at least one household, with each household having an average of 1.89 residents aged 16 and over. The Community Life Survey, Participation Survey, and Public Attitudes Tracker also reported adjusted household response rates, although the number of responding addresses was not reported for the Public Attitudes Tracker. Response rates for the Labour Force Survey were estimated at the household level as a proportion of achieved responses among eligible addresses. On the other hand, the Health Survey (Northern Ireland) and the Travel Survey for NI reported adjusted household response rates based on ineligibility rates derived from previous survey waves. Lastly, the Family Resources Survey reported unadjusted household-level response rates, as it was not possible to determine the eligibility of all sampled households.

Table 7 presents the sample outcomes for surveys that employed the all-adults selection method.

Table 7: Sample outcomes for surveys using the all-adults method

Survey	Year	Target population (age)	Issued addresses	Complete surveys	Responding addresses	Response rate (%)		Participating adults per household
						Unadj	Adj	
Attitudes to Mental Illness	2023	16 years +	6167	1638			15 ^a	
Public Attitudes Trackers	2021/22	16 years +	102306	18138			10 ^a	
							14 ^b	
	2022/23	16 years +	90904	16148			10 ^a	
							14 ^b	
Community Life Survey	2018/19	16 years +	31761	10627	6965		19 ^a	1.53
							24 ^b	
	2019/20	16 years +	31728	10243	6938		19 ^a	1.48
							24 ^b	
	2020/21	16 years +	27570	10917	7224		23 ^a	1.51
							28 ^b	
	2021/22	16 years +	25813	10126	7072		23 ^a	1.43
							30 ^b	
Empowering Places	2022 ¹	16 years +	1037	357			20 ^a	
	2022 ²	16 years +	1059	386			21 ^a	
	2022 ³	16 years +	1068	404			22 ^a	
	2022 ⁴	16 years +	1050	391			21 ^a	
	2022 ⁵	16 years +	1055	357			20 ^a	
Family Resources Survey	2020/21	16 years +	43756		10020		23 ^b	
	2021/22	16 years +	62844		16376		26 ^b	
	2022/23	16 years +	99476		25056		25 ^b	
Health Survey (NI)	2020/21	16 years +	6240	1408	980		18 ^b	1.44
	2021/22	16 years +	6240	3154	2702		47 ^b	1.17
	2022/23	16 years +	6240	3582	3117		56 ^b	1.15

Notes: (a) Personal level response rate. (b) Household level response rate. (1) Wigan. (2) Leicester. (3) Grimsby. (4) Plymouth. (5) Hartlepool. Unadjusted response rates are calculated using all issued addresses in the denominator. Adjusted response rates exclude invalid addresses and account for assumed ineligibility among households.

Continued...

Survey	Year	Target population (age)	Issued addresses	Complete surveys	Responding addresses	Response rate (%) (Adjusted)	Participating adults per household
Labour Force Survey*	2020 Q2	16 years +	90150	55837	25167	31 ^b	2.22
	2020 Q3	16 years +	90150	58846	26910	28 ^b	2.19
	2020 Q4	16 years +	90150	74832	33685	26 ^b	2.22
	2021 Q1	16 years +	90150	67549	31335	24 ^b	2.16
	2021 Q2	16 years +	90150	71817	33207	23 ^b	2.16
	2021 Q3	16 years +	90150	74537	34484	23 ^b	2.16
	2021 Q4	16 years +	90150	66079	30735	21 ^b	2.15
	2022 Q1	16 years +	90150	66145	30929	23 ^b	2.14
	2022 Q2	16 years +	90150	58900	27491	21 ^b	2.14
	2022 Q3	16 years +	90150	56362	26500	21 ^b	2.13
	2022 Q4	16 years +	90150	51374	24177	19 ^b	2.12
	2023 Q1	16 years +	90150	47910	22655	17 ^b	2.11
	2023 Q2	16 years +	90150	42512	20060	15 ^b	2.12
	2023 Q3	16 years +	90150	34965	16645	13 ^b	2.10
	2023 Q4	16 years +	90150	37628	17544	15 ^b	2.14
	2024 Q1	16 years +	90150	41752	19378	17 ^b	2.15
Participation Survey	2021/22	16 years +	69117	33589	22955	28 ^a	1.46
						36 ^b	
Scottish Health Survey***	2021	16 years +	23112	4557	2050	8 ^a	2.22
		0-15 years				10 ^b	
	2022	16 years +	8689	888**	591**	33 ^a	1.50
		0-15 years				41 ^b	
Travel Survey for NI	2020	All	1920	771	415	25 ^b	1.86
	2021	All	2560	1520	785	33 ^b	1.94

Notes: (a) Personal level response rate. (b) Household level response rate. (*) Reported estimates in this evidence review exclude imputed households. (**) Knock-to-nudge sample. (***) Estimates relate to the core adult sample.

6 Current UK survey practice: Summary of key points

The following summarises key features and variations in current UK survey practice regarding within-household selection methods in the absence of field interviewers:

1. Among the UK surveys included in this review, the most commonly used within-household selection methods were the all-adults method, followed by the any-two adults method.
2. The choice of within-household selection method varied across surveys and was influenced by several factors. In some cases, the decision was guided by the survey's objectives – for example, whether it aimed to collect information from entire households. In other cases, the choice was informed by the distribution of adults within households and efforts to minimise the risk of fraudulent responses. Alternatively, some methods were selected to reduce the burden on households, prevent non-compliance with instructions, and minimise inaccurate respondent selection, which is related to the extent to which the intended household member is actually surveyed.
3. For the next-birthday method, some surveys included a verification question at the start of the questionnaire to confirm that the respondent was indeed the selected individual. Evidence from the literature indicated that this approach significantly improved selection accuracy, although it was associated with a slight reduction in response rate.
4. In some surveys, the birthday method was incorporated in the selection of two respondents in a household. While this may increase the burden on household members, it introduces a degree of random selection in households with more than two eligible adults compared to the any-two adults method.
5. In surveys using methods that select multiple respondents per household, the number of paper questionnaires or the number of login credentials for web responses initially provided was often limited to reduce the risk of fraudulent responses. However, there is no standard approach for determining this limit. To enhance precision, representativeness, and data quality, some surveys supplemented the sampling frame with modelled household structure data.

6. There was considerable variation among UK surveys in how response rates were estimated. While some surveys appeared to align with AAPOR standards, these were often not clearly defined or explicitly stated. Additionally, in the UK context there was limited experimental evidence that controlled for other survey design features, making it difficult to robustly evaluate the performance of different within-household selection methods.

In summary, the choice of within-household selection method varied across UK survey practice, and there were few experimental studies that evaluated different selection methods while controlling for other survey design features. This made it difficult to assess the effectiveness of different methods in comparison with one another. Given this limitation, survey practitioners should consider alternative within-household selection approaches and select methods that minimise potential contributions to total survey error, considering their implications for bias and operational feasibility.

7 Summary

Evidence on the relative performance on self-completion surveys of different within-household selection methods is limited and much of it is from the USA, where the social and logistical context may differ in important ways from that in the UK. We were, however, able to present a clear picture of current practice in the UK. A few key points should influence both survey practice and future research to fill the evidence gaps:

- i. Selecting multiple respondents per household
 - Methods that select more than one person per household are more common in UK practice than those that select just one person.
 - Such methods have a lower cost per interview but introduce clustering that can reduce the precision of survey estimates.
 - The detrimental effect of clustering on precision will be greater the larger the number of persons selected per household.
 - Whether selection of one person or more than one person per household is more cost effective will depend on the extent to which households are homogeneous with respect to key survey measures.

ii. Response rates

- Overall response rates tend to be higher with non-probability methods than with probability or quasi-probability methods.
- Amongst probability and quasi-probability methods, response rates tend to be higher with methods that select just one person per household and decrease the more people are selected per household.
- For unbiased estimation of sample response rates, population data on the distribution of eligible household size must be incorporated if more than one person per household is selected. UK practice varies in which data are used for this.
- UK surveys do not always use AAPOR standard response rate definitions, nor do they always state the basis upon which response rates have been calculated.

iii. Fraudulent completions

- Offering a conditional incentive could encourage fraudulent response. Evidence on the existence and extent of fraudulent response in self-completion surveys using within-household selection is mixed.
- Methods that select only one person per household limit the attractiveness and potential influence of fraudulent response.
- To minimise fraudulent completions, UK surveys that select multiple respondents typically limit the number of paper questionnaires or logins initially provided, though protocols for doing this vary.

iv. Selection accuracy

- With birthday selection methods, the respondent turns out not to be the person who should have been selected in 30% - 50% of households containing two or more eligible people, and therefore 20% - 33% of households overall. This raises concerns about possible selection bias.
- The proportion of 'incorrect' respondents can be reduced by including a verification question early in the questionnaire. However, research has found that incorrect respondents are more likely to arise from preferences within the household than from misunderstanding of instructions, so the scope for reducing their prevalence by improving instructions seems limited.

- UK surveys rarely report any evaluation of the prevalence of ‘incorrect’ respondents.
- v. Sample composition
- There is weak evidence that demographic sample composition may be worse with non-probability methods than other methods, but no strong or consistent evidence of differences in sample composition between alternative probability and quasi-probability methods.
 - UK surveys do not consistently report sample composition, so there is insufficient basis to compare selection methods in this regard.

8 Conclusion

The existent evidence does not point to any single within-household selection method being optimal across all contexts. Each method has strengths and weaknesses, and different methods may be preferable in different circumstances, though evidence does not support a full evaluation of the relative performance of different approaches in different circumstances. While some desirable features of a within-household selection method have been identified, as have some features of a survey that might influence the choice of selection method, there remains a need for further research to compare the strengths of different approaches in the UK context. We recommend that further research might usefully:

- 1) Re-analyse existing UK survey data to compare representativeness and design effects between selection methods using standardised variables and methods.
- 2) Investigate the extent of intra-household clustering in survey responses and assess the implications for design effects and effective sample size with different selection methods.
- 3) Assess how different methods perform across household sizes and household types.
- 4) Assess the effects of alternative ways of presenting and reinforcing selection instructions.

- 5) Develop more robust ways of evaluating whether a respondent reflects a 'correct' selection and explore the implications of alternative possible methods for dealing with identified 'incorrect' selections.

9 References

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10 Appendix 1: List of surveys

Agency	Survey	Year	Sampling frame	Sampling design	Selection method	Mode	Mode detail
CLS	Cross-cohort COVID-19 Web surveys	2020	List of participants	Longitudinal	No selection (named sample)	Online	N/A
Verian	Cross-cohort COVID-19 Web surveys	2020	List of participants	Longitudinal	No selection (named sample)	Online	N/A
Verian	Cross-cohort COVID-19 Web surveys	2021	List of participants	Longitudinal	No selection (named sample)	Mixed mode	Web, Telephone
Verian	COVID Social Mobility and Opportunities Study	2022	National Pupil Database	Longitudinal	No selection (named sample)	Mixed mode	Web, Face-to-face
Verian	COVID Social Mobility and Opportunities Study	2023	National Pupil Database	Longitudinal	No selection (named sample)	Mixed mode	Web, Face-to-face, Telephone
Ipsos	Active Lives Survey	2018	Postcode address file	Cross-sectional	Any or up to two	Mixed mode	Paper, Web
Ipsos	Active Lives Survey	2019	Postcode address file	Cross-sectional	Any or up to two	Mixed mode	Paper, Web
Ipsos	Active Lives Survey	2020	Postcode address file	Cross-sectional	Any or up to two	Mixed mode	Paper, Web
Ipsos	Active Lives Survey	2021	Postcode address file	Cross-sectional	Any or up to two	Mixed mode	Paper, Web
Ipsos	Active Lives Survey	2022	Postcode address file	Cross-sectional	Any or up to two	Mixed mode	Paper, Web
Ipsos	Food and You 2	2020	Postcode address file	Cross-sectional	Any or up to two	Mixed mode	Paper, Web
Ipsos	Food and You 2	2020	Postcode address file	Cross-sectional	Any or up to two	Mixed mode	Paper, Web
Ipsos	Food and You 2	2021	Postcode address file	Cross-sectional	Any or up to two	Mixed mode	Paper, Web
Ipsos	Food and You 2	2021	Postcode address file	Cross-sectional	Any or up to two	Mixed mode	Paper, Web
Ipsos	Food and You 2	2022	Postcode address file	Cross-sectional	Any or up to two	Mixed mode	Paper, Web

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Agency	Survey	Year	Sampling frame	Sampling design	Selection method	Mode	Mode detail
Ipsos	Food and You 2	2022	Postcode address file	Cross-sectional	Any or up to two	Mixed mode	Paper, Web
Ipsos	Food and You 2	2023	Postcode address file	Cross-sectional	Any or up to two	Mixed mode	Paper, Web
Ipsos	REal-time Assessment of Community Transmission	2021	NHS List of patients	Cross-sectional	No selection (named sample)	Online	N/A
Ipsos	REal-time Assessment of Community Transmission	2022	NHS List of patients	Cross-sectional	No selection (named sample)	Online	N/A
Ipsos	GP Patient Survey	2018	NHS List of patients	Cross-sectional	No selection (named sample)	Mixed mode	Paper, Web
Ipsos	GP Patient Survey	2019	NHS List of patients	Cross-sectional	No selection (named sample)	Mixed mode	Paper, Web
Ipsos	GP Patient Survey	2020	NHS List of patients	Cross-sectional	No selection (named sample)	Mixed mode	Paper, Web
Ipsos	GP Patient Survey	2021	NHS List of patients	Cross-sectional	No selection (named sample)	Mixed mode	Paper, Web
Ipsos	GP Patient Survey	2022	NHS List of patients	Cross-sectional	No selection (named sample)	Mixed mode	Paper, Web
Ipsos	GP Patient Survey	2023	NHS List of patients	Cross-sectional	No selection (named sample)	Mixed mode	Paper, Web
Ipsos	PAMCo – Audience Measurement for Publishers	2021	Postcode address file	Cross-sectional	Up to two (grid method)	Mixed mode	Paper, Web
Ipsos	PAMCo – Audience Measurement for Publishers	2022	Postcode address file	Cross-sectional	Up to two (grid method)	Mixed mode	Paper, Web
Ipsos	PAMCo – Audience Measurement for Publishers	2023	Postcode address file	Cross-sectional	Up to two (grid method)	Mixed mode	Paper, Web
Ipsos	Northern Ireland Life and Times Survey	2020	Postcode address file	Cross-sectional	One adult (birthday method)	Mixed mode	Web, Telephone
Ipsos	Northern Ireland Life and Times Survey	2021	Postcode address file	Cross-sectional	One adult (birthday method)	Mixed mode	Web, Telephone

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Agency	Survey	Year	Sampling frame	Sampling design	Selection method	Mode	Mode detail
Ipsos	Northern Ireland Life and Times Survey	2022	Postcode address file	Cross-sectional	One adult (birthday method)	Mixed mode	Web, Telephone
Ipsos	Northern Ireland Life and Times Survey	2023	Postcode address file	Cross-sectional	One adult (birthday method)	Mixed mode	Web, Telephone
Ipsos	My Life in the Highlands and Islands	2022	Postcode address file	Cross-sectional	Any or up to two	Mixed mode	Paper, Web
Ipsos	Childcare and early years survey of parents 2019: push-to-web trial	2019	Child Benefit Register	Cross-sectional	No selection (named sample)	Online	N/A
ScotCen	The Scottish Health Survey	2020	Postcode address file	Cross-sectional	All adults	Telephone	N/A
ScotCen	The Scottish Health Survey	2021	Postcode address file	Cross-sectional	All adults	Telephone	N/A
NatCen	Survey for Londoners	2019	Postcode address file	Cross-sectional	Any or up to four	Mixed mode	Paper, Web
NatCen	Survey for Londoners	2022	Postcode address file	Cross-sectional	Any or up to four	Mixed mode	Paper, Web
NatCen	British Social Attitudes	2020	Postcode address file	Cross-sectional	Any or up to two	Mixed mode	Web, Telephone
NatCen	British Social Attitudes	2021	Postcode address file	Cross-sectional	Any or up to two	Mixed mode	Web, Telephone
NatCen	British Social Attitudes	2022	Postcode address file	Cross-sectional	Any or up to two	Mixed mode	Web, Telephone
NatCen	British Social Attitudes	2023	Postcode address file	Cross-sectional	Any or up to two	Mixed mode	Web, Telephone
NatCen	Bike Life Survey/The Walking and Cycling Index	2019	No information	Cross-sectional	No information	Mixed mode	Paper, Web, Face-to-face
NatCen	Bike Life Survey/The Walking and Cycling Index	2021	No information	Cross-sectional	No information	Mixed mode	Paper, Web
NatCen	Bike Life Survey/The Walking and Cycling Index	2023	No information	Cross-sectional	No information	Mixed mode	Paper, Web

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Agency	Survey	Year	Sampling frame	Sampling design	Selection method	Mode	Mode detail
NatCen	Financial Lives Survey	2020	Postcode address file	Cross-sectional	Any or up to three	Mixed mode	Web, Face-to-face
NatCen	Financial Lives Survey	2022	Postcode address file	Cross-sectional	Any or up to three	Mixed mode	Web, Telephone
NatCen	Public Confidence in Official Statistics	2021	Postcode address file	Cross-sectional	Any or up to two	Mixed mode	Paper, Web
NatCen	Public Confidence in Official Statistics	2023	Postcode address file	Cross-sectional	Any or up to two	Mixed mode	Paper, Web
NatCen	Generations and Gender Survey	2023	Postcode address file	Cross-sectional	One adult (birthday method)	Online	N/A
NatCen	Generations and Gender Survey	2023	Postcode address file	Cross-sectional	One adult (birthday method)	Online	N/A
NatCen	Gambling Survey for Great Britain	2023	Postcode address file	Cross-sectional	Up to two (birthday method)	Mixed mode	Paper, Web
NatCen	Gambling Participation and the Prevalence of Problem Gambling - Experimental Statistics	2023	Postcode address file	Cross-sectional	Up to two (Condition 1) Up to four (Condition 2)	Mixed mode	Paper, Web
NatCen	Gambling Participation and the Prevalence of Problem Gambling - Experimental Statistics	2023	Postcode address file	Cross-sectional	Up to two (birthday method)	Mixed mode	Paper, Web
NatCen	The Health survey for England 2020/2021 Feasibility study	2022	Postcode address file	Cross-sectional	Any or up to two	Mixed mode	Paper, Web
NatCen	Adult Oral Health Survey 2019	2019	Postcode address file	Cross-sectional	Any or up to three	Mixed mode	Paper, Web
NatCen	National Travel Attitudes Study	2019	Previous respondents to NTAS	Cross-sectional	No selection (named sample)	Mixed mode	Web, Telephone
NISRA	Continuous Household Survey	2022	NISRA Address register	Cross-sectional	All adults	Telephone	N/A
NISRA	Continuous Household Survey	2023	NISRA Address register	Cross-sectional	All adults	Mixed mode	Telephone, Face-to-face
NISRA	Health Survey (Northern Ireland)	2021	NISRA Address register	Cross-sectional	All adults	Telephone	N/A

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Agency	Survey	Year	Sampling frame	Sampling design	Selection method	Mode	Mode detail
NISRA	Health Survey (Northern Ireland)	2022	NISRA Address register	Cross-sectional	All adults	Telephone	N/A
NISRA	Health Survey (Northern Ireland)	2023	NISRA Address register	Cross-sectional	All adults	Telephone	N/A
NISRA	Northern Ireland Safe Community Telephone Survey	2021	NISRA Address register	Cross-sectional	One adult (random selection)	Telephone	N/A
NISRA	Northern Ireland Safe Community Telephone Survey	2022	NISRA Address register	Cross-sectional	One adult (random selection)	Telephone	N/A
NISRA	Northern Ireland Safe Community Telephone Survey	2023	NISRA Address register	Cross-sectional	One adult (random selection)	Telephone	N/A
NISRA	Travel Survey for Northern Ireland	2020	NISRA Address register	Cross-sectional	All adults	Telephone	N/A
NISRA	Travel Survey for Northern Ireland	2021	NISRA Address register	Cross-sectional	All adults	Telephone	N/A
NISRA	Coronavirus (COVID-19) Infection Survey [Northern Ireland]	2021	Previous respondents to NISRA / ONS surveys	Longitudinal	No selection (named sample)	Mixed mode	Paper, Web
NISRA	Coronavirus (COVID-19) Infection Survey [Northern Ireland]	2022	Previous respondents to NISRA / ONS surveys	Longitudinal	No selection (named sample)	Mixed mode	Paper, Web
ONS	Family Resources Survey	2021	Postcode address file / NISRA Address register	Cross-sectional	All adults	Telephone	N/A
ONS	Family Resources Survey	2022	Postcode address file / NISRA Address register	Cross-sectional	All adults	Telephone	N/A
ONS	Family Resources Survey	2023	Postcode address file / NISRA Address register	Cross-sectional	All adults	Mixed mode	Telephone, Face-to-face
ONS	Living Costs and Food Survey	2021	Postcode address file / NISRA Address register	Cross-sectional	All adults	Telephone	N/A
ONS	Living Costs and Food Survey	2022	Postcode address file / NISRA Address register	Cross-sectional	All adults	Telephone	N/A
ONS	Opinions and Lifestyle Survey	2021	Previous respondents to Labour Market Survey	Cross-sectional	No selection (named sample)	Online	N/A

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Agency	Survey	Year	Sampling frame	Sampling design	Selection method	Mode	Mode detail
ONS	Opinions and Lifestyle Survey	2022	Previous respondents to Labour Market Survey	Cross-sectional	No selection (named sample)	Online	N/A
ONS	Opinions and Lifestyle Survey	2023	Previous respondents to Labour Market Survey	Cross-sectional	No selection (named sample)	Online	N/A
ONS	Survey on Living Conditions	2020	No information	Cross-sectional	No information	Telephone	N/A
ONS	Labour Force Survey	2020	Postcode address file	Cross-sectional / longitudinal	All adults	Telephone	N/A
ONS	Labour Force Survey	2020	Postcode address file	Cross-sectional / longitudinal	All adults	Telephone	N/A
ONS	Labour Force Survey	2020	Postcode address file	Cross-sectional / longitudinal	All adults	Telephone	N/A
ONS	Labour Force Survey	2021	Postcode address file	Cross-sectional / longitudinal	All adults	Telephone	N/A
ONS	Labour Force Survey	2021	Postcode address file	Cross-sectional / longitudinal	All adults	Telephone	N/A
ONS	Labour Force Survey	2021	Postcode address file	Cross-sectional / longitudinal	All adults	Telephone	N/A
ONS	Labour Force Survey	2021	Postcode address file	Cross-sectional / longitudinal	All adults	Telephone	N/A
ONS	Labour Force Survey	2022	Postcode address file	Cross-sectional / longitudinal	All adults	Telephone	N/A
ONS	Labour Force Survey	2022	Postcode address file	Cross-sectional / longitudinal	All adults	Telephone	N/A
ONS	Labour Force Survey	2022	Postcode address file	Cross-sectional / longitudinal	All adults	Telephone	N/A
ONS	Labour Force Survey	2022	Postcode address file	Cross-sectional / longitudinal	All adults	Telephone	N/A
ONS	Labour Force Survey	2023	Postcode address file	Cross-sectional / longitudinal	All adults	Telephone	N/A

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Agency	Survey	Year	Sampling frame	Sampling design	Selection method	Mode	Mode detail
ONS	Labour Force Survey	2023	Postcode address file	Cross-sectional / longitudinal	All adults	Telephone	N/A
ONS	Labour Force Survey	2023	Postcode address file	Cross-sectional / longitudinal	All adults	Mixed mode	Telephone, Face-to-face
ONS	Labour Force Survey	2023	Postcode address file	Cross-sectional / longitudinal	All adults	Mixed mode	Telephone, Face-to-face
ONS	Labour Force Survey	2024	Postcode address file	Cross-sectional / longitudinal	All adults	Mixed mode	Telephone, Face-to-face
ONS	Winter Coronavirus Infection Study	2024	Previous respondents to CIS	Cross-sectional	No selection (named sample)	Mixed mode	Paper, Web
ONS	Census 2021	2021	AddressBase premium (supplemented by other sources)	Cross-sectional	All in household (census)	Mixed mode	Paper, Web
ONS	Census Quality Survey	2021	Previous household respondents to Census	Cross-sectional	All in household (census)	Telephone	N/A
ONS	Census Coverage Survey	2021	Postcode address file	Cross-sectional	One adult (census)	No information	N/A
ONS	Coronavirus (COVID-19) Infection Survey	2021	AddressBase	Longitudinal	All in household (covid)	Mixed mode	Paper, Web
ONS	Coronavirus (COVID-19) Infection Survey	2022	AddressBase	Longitudinal	All in household (covid)	Mixed mode	Paper, Web
ONS	Trust in Government Survey	2022	Previous respondents to the Opinions and Lifestyle Survey (GB) or the European Health Interview Survey (NI)	Cross-sectional	No selection (named sample)	Mixed mode	Web, Telephone
ONS	Trust in Government Survey	2023	Previous respondents to Labour Force Survey / NISRA Address register	Cross-sectional	No selection (named sample)	Mixed mode	Web, Telephone
ONS	Over 80s' Vaccines Insights Study	2021	NHS Personal Demographic Service	Cross-sectional	No selection (named sample)	Telephone	N/A

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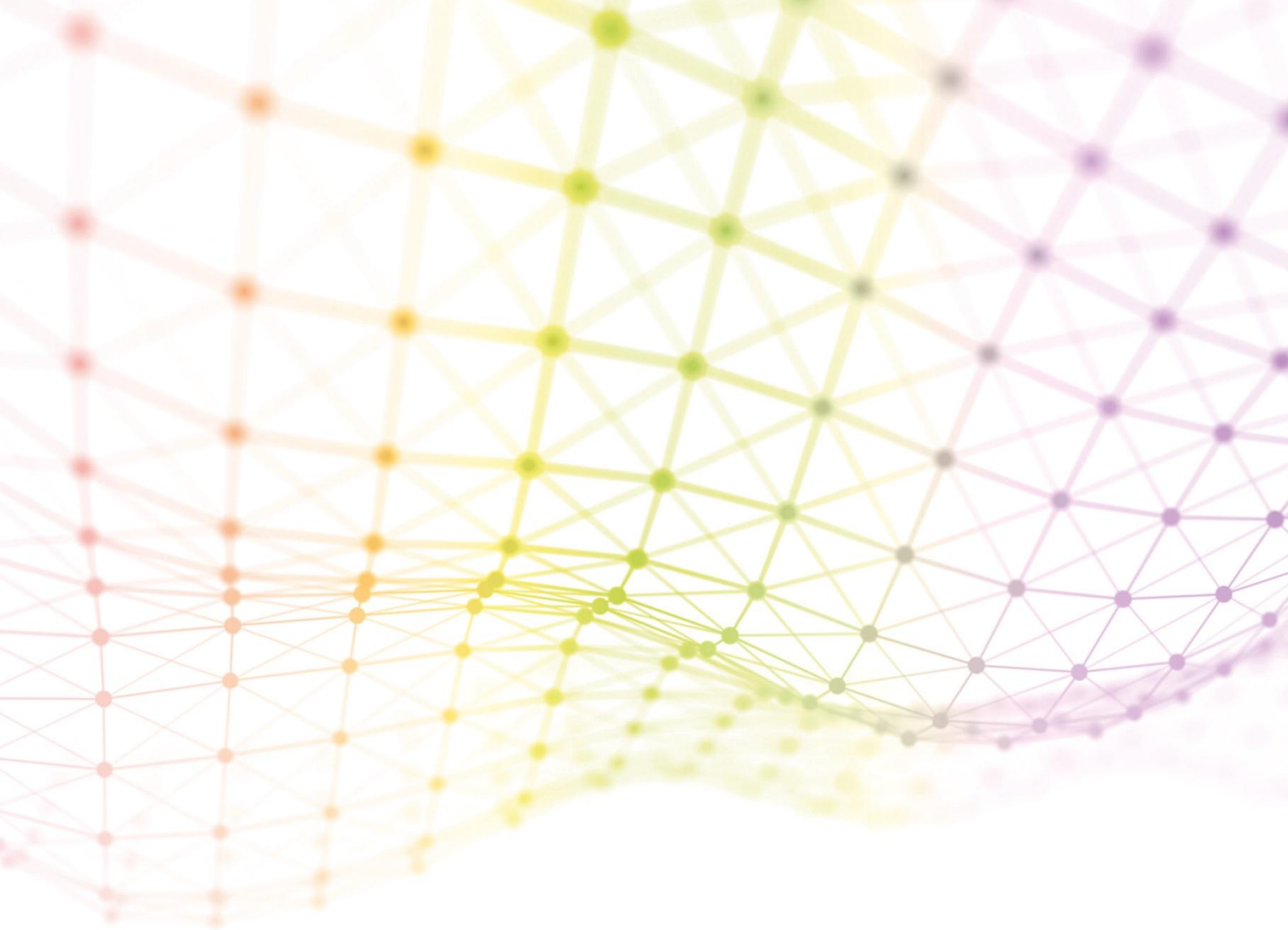
Agency	Survey	Year	Sampling frame	Sampling design	Selection method	Mode	Mode detail
ONS	Telephone Crime Survey for England and Wales	2021	Previous respondents to CSEW	Longitudinal	All adults	Telephone	N/A
ONS	Telephone Crime Survey for England and Wales	2021	Previous respondents to CSEW	Longitudinal	All adults	Telephone	N/A
ONS	Telephone Crime Survey for England and Wales	2021	Previous respondents to CSEW	Longitudinal	All adults	Telephone	N/A
ONS	Over 50s Lifestyle Study	2022	Previous respondents to Opinions and Lifestyle Survey	Cross-sectional	No selection (named sample)	Online	N/A
ONS	Wealth and Assets Survey	2020	Postcode address file	Cross-sectional / longitudinal	No information	Telephone	N/A
ONS	NatCen Opinion Panel	N/A	N/A	N/A	No information	N/A	N/A
Quality Health Ltd	Health and Care Experience	2020	Community Health Index database	Cross-sectional	No selection (named sample)	Mixed mode	Paper, Web
Quality Health Ltd	Health and Care Experience	2022	Community Health Index database	Cross-sectional	No selection (named sample)	Mixed mode	Paper, Web
IQVIA	Health and Care Experience	2024	Community Health Index database	Cross-sectional	No selection (named sample)	Mixed mode	Paper, Web
Quality Health Ltd	Scottish Cancer Patient Experience Survey	2018	Patient records	Cross-sectional	No selection (named sample)	Mixed mode	Paper, Web, Telephone
Quality Health Ltd	Maternity Care Survey	2018	Birth Registration Records	Cross-sectional	No selection (named sample)	Mixed mode	Paper, Web, Telephone
Quality Health Ltd	Inpatient Experience Survey	2018	Patient records	Cross-sectional	No selection (named sample)	Mixed mode	Paper, Web, Telephone
Verian and NatCen	Understanding Society	2018	US active households sample	Longitudinal	All adults	Mixed mode	Web, Face-to-face, Telephone
Verian and NatCen	Understanding Society	2019	US active households sample	Longitudinal	All adults	Mixed mode	Web, Face-to-face
Verian and NatCen	Understanding Society	2020	US active households sample	Longitudinal	All adults	Mixed mode	Web, Face-to-face, Telephone

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Agency	Survey	Year	Sampling frame	Sampling design	Selection method	Mode	Mode detail
Verian and NatCen	Understanding Society	2021	US active households sample	Longitudinal	All adults	Mixed mode	Web, Face-to-face, Telephone
Verian and NatCen	Understanding Society	2022	US active households sample	Longitudinal	All adults	Mixed mode	Web, Face-to-face, Telephone
Verian and NatCen	Understanding Society	2023	US active households sample	Longitudinal	All adults	Mixed mode	Web, Face-to-face, Telephone
Verian and NatCen	Understanding Society [Innovation Panel]	2018	US IP active households sample	Longitudinal	All adults	Mixed mode	Web, Face-to-face, Telephone
Verian and NatCen	Understanding Society [Innovation Panel]	2021	US IP active households sample	Longitudinal	All adults	Mixed mode	Web, Face-to-face, Telephone
Verian	Community Life Survey	2019	Postcode address file	Cross-sectional	All adults	Mixed mode	Paper, Web
Verian	Community Life Survey	2020	Postcode address file	Cross-sectional	All adults	Mixed mode	Paper, Web
Verian	Community Life Survey	2021	Postcode address file	Cross-sectional	All adults	Mixed mode	Paper, Web
Verian	Community Life Survey	2022	Postcode address file	Cross-sectional	All adults	Mixed mode	Paper, Web
Verian	Participation Survey	2022	Postcode address file	Cross-sectional	All adults	Mixed mode	Paper, Web
Verian	Individuals, Small Business and Agents Customer Survey	2018	Postcode address file	Cross-sectional	Any or up to three	Mixed mode	Paper, Web
Verian	Individuals, Small Business and Agents Customer Survey	2019	Postcode address file	Cross-sectional	Any or up to three	Mixed mode	Paper, Web
Verian	Individuals, Small Business and Agents Customer Survey	2020	Postcode address file	Cross-sectional	Any or up to three	Mixed mode	Paper, Web
Verian	Individuals, Small Business and Agents Customer Survey	2021	Postcode address file	Cross-sectional	Any or up to three	Mixed mode	Paper, Web
Verian	Individuals, Small Business and Agents Customer Survey	2022	Postcode address file	Cross-sectional	Any or up to three	Mixed mode	Paper, Web

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Agency	Survey	Year	Sampling frame	Sampling design	Selection method	Mode	Mode detail
Verian	Survey on Attitudes to the Environment	2022	Postcode address file	Cross-sectional / longitudinal	No information	Mixed mode	Paper, Web
Verian	BEIS Public Attitudes Tracker	2022	Postcode address file	Cross-sectional	All adults	Mixed mode	Paper, Web
Verian	DESNZ Public Attitudes Tracker	2023	Postcode address file	Cross-sectional	All adults	Mixed mode	Paper, Web
Verian	High Street Action Zones Survey	2021	Postcode address file	Cross-sectional	Any or up to four	Mixed mode	Paper, Web
Verian	Empowering Places	2023	Postcode address file	Cross-sectional	All adults	Mixed mode	Paper, Web
Verian	Public Voice Recruitment Survey	2020	Postcode address file	Cross-sectional	Any or up to four	Mixed mode	Paper, Web
Verian	Public Voice Recruitment Survey	2020	Postcode address file	Cross-sectional	Any or up to four	Mixed mode	Paper, Web
Verian	Public Voice Recruitment Survey	2021	Postcode address file	Cross-sectional	Any or up to four	Mixed mode	Paper, Web
Verian	Attitudes to Mental Illness	2023	Postcode address file	Cross-sectional	All adults	Mixed mode	Paper, Web
ONS	National Survey for Wales	2021	Postcode address file	Cross-sectional	One adult (Kish grid / birthday method)	Telephone	N/A
ONS	National Survey for Wales	2022	Postcode address file	Cross-sectional	One adult (birthday method)	Mixed mode	Web, Telephone
ONS	National Survey for Wales	2023	Postcode address file	Cross-sectional	One adult (birthday method)	Mixed mode	Web, Telephone



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