Developing the NatCen Panel

August 2015 – July 2017

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At NatCen Social Research we believe that social research has the power to make life better. By really understanding the complexity of people’s lives and what they think about the issues that affect them, we give the public a powerful and influential role in shaping decisions and services that can make a difference to everyone. And as an independent, not for profit organisation we’re able to put all our time and energy into delivering social research that works for society.
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Executive summary

The NatCen Panel is the first probability-based research panel in Great Britain that is open to be used for data collection by the social research community. It is designed to be representative of the adult (18+) population and allow researchers to produce reliable estimates of the opinions and behaviours of the British population in a shorter time-frame and at a lower cost than the ‘traditional’ probability-based approaches currently available. As such, it addresses what was a gap in the landscape of research vehicles available with the quality benchmark demanded by commissioners of social research.

This paper outlines the development of the NatCen Panel over the last two years, explaining the rationale setting it up, and providing technical information on its methodology and key metrics on sample quality. It also summarises some initial findings from methodological experiments, and providing examples of how the Panel has been used over the last two years.

Background

The NatCen Panel was initially developed in 2015 after NatCen Social Research was approached by the Joseph Rowntree Foundation (JRF) to provide a proposal to establish the feasibility of a bespoke panel with a high-quality, probability sample design.

NatCen’s selected approach was to form a panel by following up participants to its British Social Attitudes Survey (BSA) in 2015. Communication with panel members was via letters, emails and texts and data collection was mixed mode (online and telephone surveys). Whilst online data collection was the main method of data collection, it was very important to the study’s objectives to include those without access to the internet, so panel members were followed up by telephone interviewers. This was implemented in a feasibility study the latter half of 2015 in a series of surveys.

Key questions for the feasibility study were:

- Could a probability panel be established that achieved an acceptably high quality sample?
- Could an operation be established that maintained this quality over time?
- Could this be done efficiently, such that it provided an affordable vehicle for social research with relatively short timeframes?

Following the successful conclusion of the feasibility study, the decision was taken by NatCen to continue to sustain the panel, developing the fieldwork approach and opening the panel up to the wider social research community. The research panel was then expanded in 2016 as more panellists were recruited from the BSA 2016 survey. By doing this NatCen aimed to provide a vehicle to produce reliable estimates of the opinions and behaviours of the British population in a shorter time-frame and at a lower cost than the ‘traditional’ probability-based approaches currently available and to therefore fill a perceived gap in the tools available to social researchers in Great Britain.
Methodology

Sampling and recruitment
Members of the NatCen Panel were recruited from the BSA surveys in 2015 and 2016 which interviews those aged 18 and over across Britain (south of the Caledonian Canal). Those interviewed as part of the BSA were asked to join the panel at the end of the BSA interview. The BSA is a high-quality, random probability face-to-face survey: this means that households and individuals are selected at random, and then considerable effort is expended by field interviewers to achieve an interview, including visiting the selected addresses multiple times.¹

The timing of surveys for NatCen Panel members at not more than one per month aims to minimise burden and conditioning. At each Panel fieldwork wave all BSA participants who agreed to join the panel (and not subsequently asked to leave) are invited to take part in that month’s survey (no quotas are used), thus maintaining the random probability design. In some instances, where a smaller sample is required, a random sub-sample of the full panel may be asked a set of questions.

Fieldwork
The NatCen Panel has used a variety of different approaches, however the ‘standard’ fieldwork approach for a panel survey employs a sequential mixed mode design, where panel members are first invited to participate in the research online (using multiple points of contact by post, email and text) before being contacted by telephone if they had not yet completed the interview after two weeks (and if telephone numbers were available). Panellists are attempted a minimum of 6 times by phone to attempt to make contact. In this way we are able to enable the participation of those who do not have regular access to the internet or, for instance, who may have literacy barriers.

In contrast to conventional internet or telephone polls, the fieldwork period lasts for one month. This is to ensure that we can make repeated attempts to contact the selected individuals to try to secure their participation, rather than only including those who are more ‘readily’ available.

Surveys will typically take around 15 minutes to complete (although this will vary by mode) and a £5 gift card is sent as a ‘thank you’ to those who participate.

Weighting
Non-response in surveys conducted on the NatCen Panel surveys can occur at three stages: non-response at the recruitment survey (the BSA survey), refusal to join the panel at the end of that interview, and non-response in the survey of panel members itself. If non-response at these points it non-random then this can introduce bias into estimates produced by the survey. We therefore compute a weight to account for non-response at each of these three stages. We use this three-stage system because the variables underlying non-response could be different at each stage. This approach also allows us to maximise the use of all the information available from the BSA survey to better model non-response and more effectively account for any bias.

¹ More details of the BSA sampling approach can be found here: http://bsa.natcen.ac.uk/latest-report/british-social-attitudes-33/technical-details.aspx
Key quality figures

A total of 4,205 people have been recruited to the NatCen Panel: 2,783 in 2015 and a further 1,422 in 2016. Overall, this represents a ‘recruitment rate’ of 58% from the BSA 2015 and 2016 surveys.

The panel currently stands at a total of 3,666 members, with 539 members having requested to leave, died, or left the country (an attrition rate of c.13% overall).

Response rates will vary from survey to survey, but on average 60% of panellists invited to take part in a survey will do so (the ‘survey response rate’, and this varies very little. However, to give a proper estimate of response rates, we take into account non-response at each stage – 49% response rate at BSA 2015 & 2016, 58% recruitment rate, 13% attrition, and 60% survey response rate to give an overall response rate of c. 14% for most surveys conducted via the NatCen Panel.

Whilst a useful indicator of quality, response rates do not in themselves indicate the level of bias in the achieved sample. Detailed analysis of background characteristics of those responding to Panel surveys compared with the original BSA profile found a broadly similar profile, but some bias was evident in characteristics including gender, social grade and levels of education. However, this bias was corrected effectively by non-response weights: weighted population estimates from the panel sample are very similar to the weighted population estimates based on the BSA sample.

Looking at the external benchmarks of the 2015 General Election and the 2016 EU referendum we see that in both cases the panel estimates for the direction of voting are close to the actual figures for the population. However, levels of not voting are significantly underestimated, reflecting an established bias in surveys that those who take part are more likely to be engaged in social issues in general (although the NatCen Panel design is more effective at representing this group than the British Election Study conducted with a non-probability panel).

Research and impact

To date, a total of 14 waves of fieldwork have been conducted, 8 following the conclusion of the feasibility study. The panel has been used to collect data for a range of organisations including charities, academics and government departments, as well as allowing researchers at NatCen to explore their own methodological and substantive research interests.

As well as ‘regular’ cross-sectional survey research, the panel has been used for a range of different types of project, including recruiting to qualitative studies, online cognitive testing, split sample and factorial designs, and longitudinal analysis, and we are continuing to explore new ways to make the most of this approach.

Development and dissemination

The development of its current ‘standard’ model for fieldwork was based on experimentation and the NatCen Panel continues to be a site of development to improve the quality and/or efficiency of the approach. In particular, we intend to look at mode effects (web vs telephone, but also PC vs smartphones) and targeted/adaptive design to focus on reducing bias in our panel and survey samples.

We are committed to transparency in our methodology and aim to contribute to broader understanding of online/mixed-mode research methods. As part of this we have already released microdata to the wider research community and published methodological reports. Furthermore, given the potential for the Panel to amass
valuable attitudinal and behavioural data across a wide range of social policy areas, we intend to lodge the substantive survey data with the Data Archive wherever possible.

Finally, a further wave of recruitment will be undertaken as part of BSA 2017 fieldwork which allows us to refresh and/or expand the panel.
1 Background and introduction

1.1 Research context

1.1.1 The ‘gold standard’ is not always appropriate

In Great Britain, the ‘gold-standard’ for social research surveys is to conduct them face-to-face, randomly selecting households (and individuals within them), and having trained interviewers making multiple visits to households and fieldwork periods spanning months in order to maximise the likelihood of people taking part and therefore minimising non-response bias. However, although this approach provides high quality estimates\(^2\) the lengthier fieldwork periods, and the costs of paying interviewers may not always be appropriate for a given project – research budgets may not stretch to cover the costs of face-to-face fieldwork, or a project may wish to respond quickly to events as they unfold. As response rates drop and fieldwork costs rise, alternative methodologies become more appealing.

1.1.2 The quality of alternatives

In Great Britain, web panels and random-digit dialling (RDD) surveys provide an alternative route, having found popularity in the market research industry. However, there are still unanswered questions on the quality of these alternatives and their appropriateness for social research where the goal is to understand distributions in the population. The use of self-selecting samples, quotas, and very short fieldwork periods can lead to hidden biases in samples, while web-only fieldwork excludes a sizeable minority of the population whose experience of society is very different to the rest of the population.

There is evidence that these theoretical concerns translate into practical ones: Yaeger et al (2011) demonstrate that probability sample surveys are consistently more accurate than non-probability surveys\(^3\), and the British Polling Council’s inquiry into the 2015 General Election polling miss\(^4\) concluded that “the primary cause of the polling miss in 2015 was unrepresentative samples”.

1.1.3 International development of open probability-based panels

Although probability-based panels do exist in Great Britain (for example the UK Household Longitudinal Study\(^5\)), these are mostly large-scale (and therefore relatively slow and expensive) and/or are dedicated to a specific research project rather than being open to the social research community as a whole. In 2015, the ESRC funded an exploratory study looking at the research opportunities, design considerations and cost implications of establishing a web-based probability panel in the UK, but only preliminary findings from this have been published\(^6\).

\(^2\) See, for example: http://www.bsa.natcen.ac.uk/media/39018/random-sampling.pdf
\(^3\) https://pqr.sanford.edu/wp-content/uploads/Mode-04-Published-Online.pdf
\(^4\) http://eprints.ncrm.ac.uk/3789/1/Report_final_revised.pdf
\(^5\) https://www.understandingsociety.ac.uk/
\(^6\) http://gtr.rcuk.ac.uk/projects?ref=ES%2FM010031%2F1
Internationally, however, this is not the case and in recent years a number of open probability-based have been developed (for example the GESIS panel in Germany\textsuperscript{7}, the LISS panel in the Netherlands\textsuperscript{8}, and the AmeriSpeak panel in the United States\textsuperscript{9}). Although varied in their specific methodologies, these studies demonstrated the feasibility of setting up and maintaining a probability-based panel infrastructure open to the social research community, and a template for doing so.

1.2 Feasibility study

It was within that context that the Joseph Rowntree Foundation (JRF), having considered existing non-probability online access panels, approached NatCen Social Research in 2015 to provide a proposal to establish the feasibility of a bespoke panel with a high-quality, probability sample design.

NatCen’s selected approach was to form this panel by recruiting participants from its British Social Attitudes (BSA) survey in 2015. By doing so, it would allow for a probability-based design and a higher recruitment rate than other recruitment modes, but avoid the costs of fresh recruitment. Once the panel was recruited, participants would be interviewed online (to keep costs down), but those unable to take part would be followed up by telephone interviewers to boost response rates and allow coverage of those without internet access.

The feasibility study ran a total of six surveys from August to November 2015, ranging from short, web-only ‘polls’ with a one-week fieldwork period to larger 15-minute surveys with web/CATI fieldwork lasting a month. As well as establishing the feasibility of setting up the panel, the study aimed to experiment with different approaches to investigate the best approach to maintaining the panel in longer term.

Following the successful conclusion of the feasibility study, in early 2016 NatCen took the decision to maintain, open up, and expand the size of the panel – identifying that this was a useful piece of research infrastructure currently missing in Great Britain.

\textsuperscript{7} http://www.gesis.org/en/gesis-panel/gesis-panel-home/
\textsuperscript{8} https://www.lissdata.nl/
\textsuperscript{9} http://amerispeak.norc.org/
2 Methodology

Following the decision to maintain the NatCen Panel, a ‘standard’ methodology was established based on the findings of the feasibility study. This section outlines that ‘standard’ approach, thought it should be noted that this may be deviated from in order to meet specific client requirements or experiment with developments to improve the efficiency or quality of the study.

2.1 Recruitment

The first question to address when setting up the feasibility study was how to recruit people to the panel, with the following key goals:

- A random-probability design to avoid biases of self-selection and ‘convenience’ samples and allow for statistical projections to the population.
- High recruitment rates to minimise non-response bias and provide a larger sample size for analysis of sub-groups.
- Low costs to meet budget constraints, but also (longer-term) keep the infrastructure accessible to a wider range of researchers.

The initial approach we considered was fresh recruitment (as per the GESIS panel). However, fresh face-to-face recruitment was considered too costly to be appropriate for this study. We were also concerned that using fresh telephone, paper or web methods would attract low recruitment rates and undermine the quality of the panel at the first stage, and that it would be difficult to monitor protocol compliance in self-completion approaches.

We therefore explored the possibility of using a ‘piggy-back’ approach – recruiting panellists off the back of a pre-existing survey (in this instance the BSA survey). This approach had recently been used to develop Pew’s American Trends Panel10, and has recently been implemented in the development of the CROss-National Online Survey Panel (CRONOS)11.

The BSA is a high-quality, random probability face-to-face survey of people aged 18+ in Great Britain: this means that households and individuals are selected at random, and then considerable effort is expended by field interviewers to achieve an interview, including visiting the selected addresses multiple times12. By recruiting from the BSA survey, we were able to:

- Maintain a probability-based recruitment design
- Produce higher recruitment rates then with alternative approaches
- Keep recruitment costs low as the only costs were the ‘marginal’ costs of asking additional questions
- Obtain a large quantity of background data on the panellists13

10 http://www.pewresearch.org/2015/04/08/building-pew-research-centers-american-trends-panel/
11 http://seriss.eu/about-seriss/work-packages/wp7-a-survey-future-online/
12 More details of the BSA sampling approach can be found here: http://bsa.natcen.ac.uk/latest-report/british-social-attitudes-33/technical-details.aspx
13 This meant we did not have to run an additional ‘profile’ interview, and also enhances our ability to weight for non-response (see Section 2.3).
Those interviewed as part of the BSA were asked to join the panel at the end of the BSA interview. The recruitment question wording has varied – for the BSA 2015 recruitment a split-sample experiment was conducted where BSA participants were either asked if they would be willing to join a research panel or asked if they would be willing to take part in further research; for the BSA 2016 recruitment BSA participants were all asked to join the panel; and for the BSA 2017 recruitment, the ‘panel’ recruitment question wording has been simplified\(^\text{14}\). Interviewers were briefed and provided with additional materials to help them answer any questions that participants might have.

Those BSA participants who agreed to join the panel were then asked to confirm their contact details not collected as standard as part of the BSA interview – name, phone number(s) and email address. Once the interview data were transferred back to the office, those that had agreed to join the panel were sent an information leaflet and letter confirming that they had joined the panel, and providing more detailed information on what taking part would involve.

### 2.2 Fieldwork

#### 2.2.1 Sampling

At any given Panel fieldwork wave following the NatCen Panel’s ‘standard’ design, all active panellists (BSA participants who agreed to join the panel and not subsequently asked to leave) are invited to take part in that month’s survey (no quotas are used). By inviting all active panellists, we sustain the principle that the population has a known and non-zero chance of being selected and thus the random probability design.

In some instances, where a smaller sample is required than those that would take part if all were invited, a stratified\(^\text{15}\) random sub-sample of the full panel may be asked a set of questions. This approach is also used where a split-sample or factorial design is required.

Although this reflects the standard design, there may be instances where we deviate from this approach – for example where there are particular concerns about mode

\(^{14}\) The precise recruitment question wording for each wave of BSA recruitment can be found in Appendix A

\(^{15}\) Typically based on sex, age, region, and household income, though this can be done with other variables if required
effects/comparability with other studies, or particularly tight budget constraints, we may not issue cases who cannot take part online.

2.2.2 Fieldwork structure

The NatCen Panel employs a ‘sequential mixed-mode’ fieldwork design, lasting for slightly over four weeks. At the start of fieldwork, all active panel members are provided with a link to a web survey and a unique log-in code to access the questionnaire and invited to take part in the research online. After two weeks, all active panel members who have not taken part in the survey online, and for whom we have a phone number, are issued to the NatCen Telephone Unit to follow-up by phone and either support them to take part online or complete and interview over the phone.

Figure 2:2  NatCen Panel fieldwork structure

By employing this sequential mixed-mode design with a four week fieldwork period, the standard design aims to strike a balance between maximising quality and efficiency:

- By issuing all cases to web first, we maximise the number of cases completing online, minimising (telephone) interviewer costs
- A four-week fieldwork period strikes a balance between allowing all types of people an opportunity to take part (to minimise bias towards ‘early responders’/the ‘readily available’), while still providing data in a timely fashion
- Following up with telephone fieldwork helps to boost response rates, and allows us to include in our survey sample those who are not comfortable/do not have access to the internet

2.2.3 Questionnaire development

Questionnaire length & structure

In line with best-practice guidelines, surveys run on the NatCen Panel will typically last for around 15 minutes, although this will vary by mode and an individual’s circumstances. While we have increased this up to c. 20 minutes in the past, we aim to avoid making the surveys too long to minimise burden on panellists to lower and negative effects on data quality and panel attrition, which may be more keenly felt in a telephone or web interview. Should a longer interview be required, it may be possible to split the questionnaire content across multiple waves of panel surveys, adjusting for non-response with a longitudinal weight.

16 We have recently changed this so that those that only complete on the phone are issued after only one week of web fieldwork
The questionnaires are broken up into ‘modules’ – in order to minimise costs, questions from multiple research projects may be asked in one survey from the panel member’s perspective. This allows us to maximise the number of questions asked of panellists while making efficiencies in terms of the number of invite letters/phone calls made/incentives sent, and also makes sense logistically - not having to manage multiple live surveys simultaneously, or confusing panellists by having them not sure what they are being reminded to take part in, etc.

**Question design & testing**

Due to its mixed-mode design (web-PC, web-smartphone, telephone), a key consideration in questionnaire design and development is addressing the potential for mode effects. The approach to this will vary depending on the question and its background (for example is it a new question, or is the aim to make it comparable to an existing question?):

- ‘Mode optimisation’ – designing different versions of the questions so that they are optimised to a given mode (e.g. not using grids on smartphones)
- ‘Mode neutral’ – designing single versions of questions to keep the experience as similar across modes (e.g. removing visual cues on scale questions)

Where appropriate, other techniques are used to address the impact of mode effects, such as randomising/reversing answer option order to counter-act varying primacy/recency effects in different modes.

### 2.2.4 Participant materials

**Invites and reminders**

Once fieldwork begins, active panellists are contacted at multiple times, and via multiple modes (letters, emails and texts) to provide them with the required information and encourage them to take part in the live survey. Multiple modes of contact and different days of the week are used in order to maximise the chances of reaching different groups.

These are spread across the first two weeks of fieldwork to maximise the number of people completing the questionnaire online before the outstanding sample is issued to the NatCen Telephone Unit for contact. A final set of reminders are sent three weeks into fieldwork to those that have not completed the questionnaire and for whom we do not have a contact phone number, as these panellists will not be contacted by the Telephone Unit during the last few weeks of fieldwork.

**Thank-you mailings**

All participants that complete the questionnaire are sent a thank-you letter and email to acknowledge receipt of the survey data. As part of the standard design, the thank-you letter will include a £5 gift-card as a ‘thank-you’ for the participant’s time. However, were the interview to be especially burdensome, we may consider increasing this to £10, or should the budget for a particular project be particularly tight, we may consider dropping this to, for example, a £1 donation to charity.

**Inter-wave mailings & panellist website**

As well as the thank-you mailings, panellists are sent feedback in the form of summary findings from the surveys they take part in via updates to the website (natcen.ac.uk/panel; sign-posted in all communications) and bi-annual inter-wave mailings. These communications are designed to be informative and emphasise the importance of taking part, while minimising influencing behaviours at all, or demonstrating bias.
2.2.5 CATI interviewing

As outlined in Section 2.2.2, as part of the standard design, after 2 weeks of web fieldwork all active panellists that have not completed the web questionnaire but for whom we possess a telephone number are issued to the NatCen Telephone Unit for contact. For most, the telephone fieldwork period lasts for slightly over two weeks, however there is additional sub-sample (mostly older panellists or those without internet access) of active panellists eligible for telephone fieldwork that have participated in previous surveys but have never taken part online, that are issued to the NatCen Telephone Unit one week early to relieve some of the pressure on interviewers in the later weeks.

The goal of the telephone fieldwork period is to boost response rates and allow those without internet access to take part by either reminding/supporting/encouraging panellists to complete online, or conducting the interview over the phone. Considerable effort is put into contacting eligible panel members and all are called a minimum of 6 times, at a variety of times of the day and days of the week, before being coded as a ‘non-contact’.

2.3 Weighting

Non-response for NatCen’s probability panel surveys can occur at three stages: non-response at the survey used for recruitment (the BSA survey), refusal to join the panel at the end of that interview, and non-response in the survey of panel members itself at any given wave. A weight is computed in order to account for non-response at each of these three stages. The final weight is the product of these three weights. This three-stage system is used because the variables underlying non-response could be different at each stage.

One of the key advantages of recruiting the NatCen Panel from the BSA survey is that all panellists have a large amount of consistently-collected background information with which to model non-response at the panel recruitment and panel survey stages. For example, ‘interest in politics’ acts as a strong predictor of non-response, so by including this in model we can account for much of the bias that non-response may create. By using this three-stage system we can maximise the use of all the information available from the BSA Survey.
2.3.1 BSA weight

Existing panel members were recruited from the BSA 2015 and BSA 2016. The BSA weights firstly account for unequal chances of selection in the BSA sampling. Secondly, a non-response model is used to produce a non-response weight. This weight adjusts for non-response at the BSA survey using: region, type of dwelling, whether there were entry barriers to the selected address, the relative condition of the immediate local area, the relative condition of the address, the percentage of owner occupied properties in quintiles and population density. Finally, the BSA weights make the sample of BSA respondents representative of the general British population in terms of gender, age and Government Office Region (GOR)\(^{17}\).

2.3.2 Recruitment weight

The recruitment weight accounts for non-response at the panel recruitment stage where some people interviewed as part of the BSA survey chose not to join the panel. A logistic regression model is used to derive the probability of response of each panel member; the panel weight is computed as the inverse of the probabilities of response. The weight adjusts the panel for non-response using the following variables: age and sex groups, GOR, BSA year, household type, household income, education level, internet access, ethnicity, tenure, social class group, economic activity, political party identification, and interest in politics\(^{18}\). The resulting weight is then multiplied by the BSA 2015 and 2016 weights, so the panel is representative of the population.

2.3.3 Survey weight

The survey weight is to adjust the bias caused by non-response to a panel survey at a particular wave. Again, a logistic regression model is used to compute the probabilities of response of each participant. The panel survey weight is equal to the inverse of the probabilities of response. The initial set of predictors used to build the model was the same as for the panel weight; and for most waves the final set of variables used is also the same. The final survey weight is the result of multiplying the survey weight by the compounded recruitment weight.

\(^{17}\) More details on the BSA weight can be found at http://bsa.natcen.ac.uk/latest-report/british-social-attitudes-33/technical-details.aspx

\(^{18}\) The characteristics that are likely to change with time for an individual and whose distribution differed between 2015 and 2016 BSA sample have been entered into the model in interaction with BSA year.
3 Outcome and quality

3.1 Recruitment to the panel

Overall, a total of 4,205 people of the 7,270 who were interviewed as part of the 2015 and 2016 BSA surveys agreed to join the NatCen panel, representing a 58% recruitment rate.

This recruitment rate varied by the recruitment approach – in BSA 2015 a random half of the sample were asked if it would be okay to contact them for ‘follow-up studies’, and the other half were asked if it would be okay to contact them as part of a research panel (the approach repeated in 2016) \(^\text{19}\). Figure 3:1 shows BSA participants were more likely to agree to be contacted for ‘follow-up studies’, than specifically as part of a research panel.

![Figure 3:1 NatCen Panel recruitment rates by invite year and invite approach](image)

This substantial difference is somewhat off-set by the fact that participants that agreed to be contacted as part of the panel are significantly less likely to subsequently ask to leave the panel, and significantly more likely to take part in any given wave of panel fieldwork. While it varies from wave to wave, the overall response rates (where non-response at each stage is accounted for) for those agreeing to be contacted for follow-up studies tend to be around 20-25% (or 3-4 percentage points) higher (see Figure 3:4 NatCen Panel overall response rates over time by invite year and invite approach\(^\text{19}\)).

This higher response rate should be balanced against the costs of managing a panel that is 1 ½ times as large (for example larger volumes invite and reminder letters, and issuing a larger number of cases to telephone interviewers), and the context that this difference in overall response rates does not seem to translate into a difference in sample profile.

\(^\text{19}\) The precise recruitment question wording for each wave of BSA recruitment can be found in Appendix A
3.2 Panel attrition

As with all longitudinal samples, the NatCen Panel is subject to attrition – panellists either deciding that they wish to leave the panel or becoming ineligible (for example by leaving the country). As of July 2017, a total of 3,666 people were still members of the NatCen panel – an overall attrition rate of 13%.

Figure 3:2 shows this attrition rate over time, by invite group. This seems to suggest that the rate has not plateaued over time as we might expect as less-committed panellists drop off. However, this may be partly due to lower attrition rates early among the BSA 2015 sample due to lower levels of contact in the first half of 2016. By comparison, the BSA 2016 sample that was invited to join the panel had an attrition rate 2 points higher than the BSA 2015 sample with the same invite method one year before.
3.3 Response rates to panel surveys

The NatCen Panel uses two response rates to track fieldwork:

- The **survey response rate** looks at the proportion of participants invited to take part in a survey that participate.
- The **overall response rate** goes back to the original sample frame, and looks at the proportion of participants eligible to be interviewed for BSA that participate\(^\text{20}\).

The former of these is useful for understanding how response rates are changing between surveys, but the latter is important to account for non-response that occurs at each stage of the panel recruitment: BSA participation, recruitment to the panel, attrition, and at a given panel survey wave.

Panel response rates are broadly consistent at waves where the ‘standard’ design have been used, at around 60% and 16% overall for the survey and overall response rates respectively\(^\text{21}\). Figure 3:3 and Figure 3:4 show how these have changed over time.

**Figure 3:3** NatCen Panel survey response rates over time by invite year and invite approach

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\(^{20}\) In practice, we also account for panellists that have become ineligible, but for simplicity, and given small numbers (only 19 panellists have been identified as ineligible) we will not adjust for this here meaning that all overall response rates will be a slight under-estimate.

\(^{21}\) At two waves, a web-only fieldwork model, with an incentive of a £1 donation to charity, was employed. These attracted overall response rates of 8% and 9%.
While the survey response rates have remained relatively stable, there is some indication that the overall response rates are very gradually declining (by c. 0.4 pp per wave). That this pattern is not seen in the survey response rate, suggests that this is being driven by attrition (see Section 3.2). However, the level attrition seen is higher than the decline in overall response rates suggests. Table 3:1 shows that for both those recruited in 2015 and 2016, the majority (c. 2/3) of those that have attrited have never taken part in a panel survey, and only 18% have taken part in more than one – i.e. those that have left the panel were not taking part in the surveys anyway, so their leaving has no impact on the overall response rate, and strengthens the survey response rate as they are not issued.

**Table 3:1  Number of panel surveys taken by panel leavers by recruitment year**

<table>
<thead>
<tr>
<th>Number of panel surveys</th>
<th>BSA 2015</th>
<th>BSA 2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>67%</td>
<td>69%</td>
</tr>
<tr>
<td>1</td>
<td>14%</td>
<td>18%</td>
</tr>
<tr>
<td>2</td>
<td>7%</td>
<td>10%</td>
</tr>
<tr>
<td>3+</td>
<td>12%</td>
<td>3%</td>
</tr>
<tr>
<td><strong>Bases</strong></td>
<td>445</td>
<td>94</td>
</tr>
</tbody>
</table>

*Base: All people who have left the panel*
3.4 Longitudinal response rates

Although the NatCen Panel was designed with cross-sectional research in mind, its design is more akin to a longitudinal study, and as such longitudinal analysis is possible. However, for this to work a high ‘re-interview’ rate is required to ensure estimates are representative of the general population.

Table 3:2 looks at all NatCen panel survey waves conducted with both the BSA 2015 and 2016 sample. Comparing any two of these waves, around 85 – 90% of those that took part in the first wave also took part in the second.

<table>
<thead>
<tr>
<th>Panel survey wave</th>
<th>Nov '16</th>
<th>Feb '17</th>
<th>Mar '17</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feb '17</td>
<td>88%</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Mar '17</td>
<td>87%</td>
<td>90%</td>
<td>-</td>
</tr>
<tr>
<td>May '17</td>
<td>84%</td>
<td>87%</td>
<td>89%</td>
</tr>
<tr>
<td>Base</td>
<td>2375</td>
<td>2322</td>
<td>2290</td>
</tr>
</tbody>
</table>

Figure 3:6 shows how this re-interview rate accumulates should longitudinal analysis be required across multiple waves of panel surveying.

3.5 Inactive panel members

As part of the ‘standard’ design, all ‘active’ panel members (defined as those that have agreed to join the NatCen Panel and not subsequently left) are invited to any given wave of panel fieldwork. However, there are a proportion of these that have never taken part in a survey – 765 out of current 3,666 ‘active’ panel members have never taken part in a panel survey.

Figure 3:6 shows the proportion of people ever interviewed after each wave of panel fieldwork using the ‘standard’ design. The differences between the groups reflect the
overall survey response patterns, but it also shows that, unsurprisingly, the proportion that will ‘ever’ take part plateaus – very few of those recruited in 2015 that took part in the surveys in 2017 had not taken part before.

However, there were also still 7 people recruited in 2015 who took part for the first time in May 2017. There is therefore a balance to be struck between maximising the panel quality by continuing to invite everyone who hasn’t expressed a wish to withdraw, and minimising costs by not sending out invites or reminders to, or spending interview time on, people who are unlikely to ever take part.

Figure 3:6  NatCen Panel proportion ever interviewed over time by invite year and invite approach
3.6 Impact of telephone fieldwork

The role of telephone fieldwork in the NatCen Panel is two-fold:
1. To increase response rates overall
2. To allow people without internet access to take part

3.6.1 Impact on response rates

The level of impact of telephone fieldwork on response rates varies from wave to wave. Overall, the telephone fieldwork adds c. 3 percentage points to the overall response rates of any given survey wave. However, there is some indication that this is declining over time (Figure 3:7).

This decline in contribution from telephone fieldwork is supported when looking at the proportion of all interviews completed on the phone by recruitment wave and invite group.

Figure 3:8 shows that, firstly, those recruited to 'join the panel' are less likely to complete on the phone, perhaps reflecting the higher level of engagement and (web) survey completion of that group. Secondly, it shows that those recruited more recently are more likely to complete on the phone, and that the proportion completing on the phone is decreasing for all groups over time. This may be because as the active panel becomes more engaged and used to the process of accessing a questionnaire online, they are more likely to complete online. It may also reflect that once a person has taken part, we are more likely to have more contact details for them (email address, mobile phone numbers), so they are more likely to receive reminders and be 'pushed to web'.
3.6.2 Including people without internet access.

Overall, 11% of those recruited to the NatCen Panel reported not personally having access to the internet – a group significantly different to the rest of the population in terms of demographics (e.g. in terms of age, income, and levels of education), but also attitudes and behaviours (e.g. they are more likely to think Britain should leave the EU and less likely to say the highest priority for government spending should be education).

Excluding this group would therefore bias the sample and may have an impact on survey estimates. Figure 3:9 shows the overall response rates for surveys using the ‘standard’ design by whether a respondent reported personally having internet access during their recruitment interview, broken out into web and telephone completions.

This demonstrates that those with web access are significantly more likely to take part in a panel survey than those that reported not having web access\(^{22}\). However, it also demonstrates the effectiveness of the telephone fieldwork in lifting the response rates for those without internet access. For this group, although some complete online\(^{23}\), the majority complete on the phone, and in a significantly higher proportion compared to those with access to the internet.

\(^{22}\) Some of this will be driven by lower recruitment rates among those without internet access rather than lower survey response rates

\(^{23}\) A small proportion of those indicating that they did not have access to the web in the BSA interview did in fact complete a panel survey online – this may be due to a change of status or accessing the internet through an alternative means (e.g. approximately 1/3 of those saying they do not personally have web access say that someone in their household does have internet access)
3.7 Sample composition

Although response rates are a helpful proxy for sample quality (assuming that as response rates decrease, non-response bias increases), they do not actually show if, or how, the underlying sample is biased. The tables in Appendix B use a number of key variables to demonstrate how the sample profile varies at different stages of the recruitment process – participation in BSA, recruitment to the panel, panel attrition, and panel survey participation, using figures from the latest panel survey in May ’17. It also includes population estimates using weighted BSA data to approximate how the panel sample differs from the population as a whole. These key figures are reviewed at each wave and presented to researchers using the panel data for transparency.

3.7.1 Demographic profile

In terms of demographics, there are a number of places where the unweighted panel survey sample differs from the population as a whole. People that take part in panel surveys are more likely to be women, older, in managerial and professional occupations, have a degree, live in a single-person household, and own their own home (Appendix B).

For the most part, these reflect the kinds of biases often seen in survey samples, and are continuations from the original BSA survey. In some instances the bias seen is reduced (e.g. household type). However, there a few instances where the additional levels of non-response add to the bias seen in the demographic profile – the biases in terms of social grade, levels of education, and tenure seen in the panel survey sample are not seen in the BSA survey sample.

However, while these biases exist in the underlying sample, Appendix B also demonstrates that the non-response weights which are very effective at removing this bias.
bias from the sample, as the weighted population estimates from the panel sample are very similar to the weighted population estimates based on the BSA sample.

3.7.2 Non-demographic profile

While demographics are important, it also useful to look at non-demographic variables related to survey outcomes. This will clearly vary from wave to wave – for example were the survey focussed on health we might look at the profile in terms of whether participants have a long-standing health condition, or for research on political attitudes we might look at interest in politics or party identification.

It is relatively rare in Great Britain to have population figures for non-demographic (i.e. census) variables, but a good proxy for attitudes in general for which population data are available is how people vote. Figure 3:10 and Figure 3:11 show how weighted estimates from the September ‘16 panel survey\(^{25}\) compare to the actual results from the 2015 General Election and the 2016 EU referendum. In both cases, the panel estimates for the direction of voting are close to the actual figures for the population, but levels of not voting are significantly under-estimated. This reflects an established bias in surveys that those who take part are more likely to be engaged in society/want to have their opinions heard. For context, the British Election Survey run on the YouGov panel produced post-vote non-voter estimates of 9% and 7% for the 2015 General Election and the 2016 EU referendum respectively, suggesting that the NatCen Panel design is more effective at representing this group.

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\(^{25}\) We are using this wave as it was conducted closest to the EU referendum, but similar analysis of subsequent waves show similar patterns.
3.7.3 Measuring the sample profile

While it is useful to look at the sample profile in detail, reviewing individual variables is somewhat cumbersome, and does not account for how different variables interact to give an overall measure of bias. We are currently investigating the most appropriate measure to do this to allow us to simply monitor and convey sample bias to survey data users, for example by using R-indicators or the Duncan dissimilarity index (as used by the GESIS panel).
4 Research and impact to date

To date, a total of 14 waves of fieldwork have been conducted using the NatCen Panel – 6 waves as part of the initial feasibility study, and 8 waves funded either internally by NatCen or by external collaborators. The findings from these have not all been published yet, but this chapter provides some examples of the work done so far.

Feasibility study – August – November 2015

The initial feasibility study comprised of 6 waves of data collection to establish the feasibility of and best approach to developing and maintaining a random-probability panel. Section 5 outlines some of the key experiments run as part of this work, and we intend to publish these findings in the future.

Social & political attitudes of people on low incomes - November 2015

The first piece of research published using the data from the NatCen panel was based on data collected at the final wave of the feasibility study. Conducted on behalf of the Joseph Rowntree Foundation, data collected from the NatCen Panel was analysed alongside qualitative data and historical data from Understanding Society and British Social Attitudes to understand the social and political attitudes of people on low incomes, and how they differ from the rest of the population.


Public opinion on the EU referendum – May & September 2016; February 2017

Given the events of the last year and a half, it is not surprising that there has been a lot of research interest in public attitudes to the EU. Contributing to the ‘What the UK thinks’ project, we conducted the only probability-based surveying of the public in the immediate run-up and aftermath of the EU referendum, and have continued to track public attitudes as the UK government begins the process of negotiating Brexit.

Our design also allowed us to draw on a background of attitudinal information of our panellists to get a deeper understanding of who voted, in which direction and why, and linking data on how people said they would vote, and how they actually did allowed us to conduct longitudinal analysis on the role of turnout weighting in election polling – something we are intending to publish alongside a repeat of the analysis on data for the 2017 General Election.

- [http://natcen.ac.uk/media/1216024/natcen-eu-referendum-report-200616.pdf](http://natcen.ac.uk/media/1216024/natcen-eu-referendum-report-200616.pdf)
- [http://natcen.ac.uk/media/1319222/natcen_brexplanations-report-final-web2.pdf](http://natcen.ac.uk/media/1319222/natcen_brexplanations-report-final-web2.pdf)
- [http://natcen.ac.uk/blog/how-is-adjusting-for-turnout-affecting-the-opinion-polls](http://natcen.ac.uk/blog/how-is-adjusting-for-turnout-affecting-the-opinion-polls)
Online cognitive testing – August 2016

Working with academics from the University of Essex, in August 2016 we conducted online cognitive testing of a set of questions. This followed a round of offline cognitive testing and used a split-sample approach to compare the results for the questions before and after amendments based on the offline testing had been made. Findings from the study are being presented at the ESRA 2017 conference.


Attitudes towards ‘good schools’ and selective education – November 2016

A key, and controversial, debate in education policy is the role of grammar schools and the impact that they may have on attainment and social mobility. While much analysis has been conducted by experts and commentators, this research aimed to look at public attitudes to what makes a good school, and how that relates to selective education.


Surviving or thriving: The state of the UK’s mental health – March 2017

As part of Mental Health Awareness week, in March 2017 NatCen conducted a survey using the NatCen panel on behalf of the Mental Health Foundation to understand level of the mental health – both positive and negative - of the population.

- [https://www.mentalhealth.org.uk/sites/default/files/surviving-or-thriving-state-uk-mental-health.pdf](https://www.mentalhealth.org.uk/sites/default/files/surviving-or-thriving-state-uk-mental-health.pdf)

Out latest wave – May 2017

Our latest wave of research using the panel infrastructure was conducted in the run up to the General Election, and we looked at the public’s attitudes to politics, the election, and how well they thought they were represented.


At the same wave, we also conducted research into people attitudes towards disability benefits – the results of which we hope will be published soon.
5 Ongoing development and experimentation

Although it has a ‘standard’ fieldwork model, as a new approach to recruitment and fieldwork, the NatCen Panel has been a site of development and experimentation aiming to improve the quality and/or efficiency of the approach.

As outlined above, the original feasibility study experimented with a range of different elements of the design:

- Section 3.1 outlines some findings of the impact of different wording to recruitment questions, and we will be adapting this again for recruitment in 2017
- Comparing the impact of no incentives, £1 donations to charity, £5, and £10 incentives
- Comparing the impact of the number, timing and mode of reminder communications
- The role of the telephone unit and the relative impacts of them not being included, encouraging web completion, or pushing for telephone interviews (some of this is included in Section 0)
- The quality of short (1 week) web-only fieldwork designs

Since then, this experimentation has continued, as we have continued to experiment with using web-only fieldwork, the impact of inter-wave mailings, the design and structure of communications, weighting design, and question design best-practice (for example randomisation & flipping of answer scales, using ‘check’ questions in grids). We have also taken some first steps into ‘targeted design’ – with an extended telephone fieldwork period for those that only take part on the phone, and extra reminder communications for those without phone numbers.

We aim to continue this work in the future – from simple things like sending birthday cards to panel members and targeting the wording of our communications, to investigating moving to a points-based incentives system or targeting higher effort (e.g. larger incentives or more call from telephone interviewers) at those who are under-represented.

We have also continued to expand our definition of what the panel infrastructure can be used for. Initially designed for cross-sectional survey research, it has since been used for longitudinal analysis, qualitative recruitment, online cognitive testing and split sample and factorial designs. Again – we intend to continue to look into how the NatCen panel infrastructure can be used to its full potential, for example by investigating its use for calibrating non-probability samples, or using respondent-driven sampling to access rare populations.

While the primary goal of this work is to develop our understanding of the panel, innovate, and ultimately improve its quality, as part of NatCen’s charitable remit we intend to publish the findings and data for this work in order to contribute to wider methodological understanding of panel and online/mixed-mode research methods.
Appendix A. Recruitment question wording

BSA 2015 – Version 1
From time to time we do follow-up studies and may wish to contact you again. You can always decide at the time whether or not you want to take part.

Would this be all right?
1. Yes
2. No

BSA 2015 – Version 2
READ OUT: Over the next few months, NatCen will be starting an exciting new research project. We will be inviting a panel of carefully selected people to share their views on a wide range of issues. The findings will help the government, charities and others to tackle important issues affecting our country.

As part of this research, we will be working with the Joseph Rowntree Foundation. The Joseph Rowntree Foundation is a large charity that works to improve life in the UK by researching the root causes of social problems and developing solutions. Research with the people in the panel would feed directly into their work.

If you joined the panel, you would be invited to take part in short surveys of no more than 15 minutes about once a month. The surveys would generally be online or over the phone and you could decide each time whether or not you want to take part.

INTERVIEWER: REFER TO JRF PANEL CRIB SHEET FOR FURTHER INFORMATION

Would it be okay for us to contact you as part of this panel?
1. Yes
2. No

BSA 2016
READ OUT: We would like to invite you to join a group of people carefully selected for NatCen’s highly-regarded research panel. NatCen asks this panel to share their views on a wide range of social issues, with findings used to help the government, charities and others to tackle important issues affecting our country.

If you joined the panel, you would typically be invited to take part in short surveys of about 15 minutes every few weeks. The surveys would generally be online or over the phone and you could decide each time whether or not you want to take part. We would generally be able to give you a voucher to thank you for your time and will tell you about this each time we invite you to participate in a survey.

INTERVIEWER: REFER TO PANEL CRIB SHEET FOR FURTHER INFORMATION

Would it be okay for us to contact you as part of this panel?
BSA 2017

READ OUT: We would like to contact you again in the future to take part in short pieces of research to help us represent the opinions and experiences of the public on important issues that affect us all.

If you agree, you would be invited to take part in short surveys of about 15 minutes every few weeks that could be completed online or over the phone. You can decide at the time whether or not you want to take part. We would generally be able to give you a £5 voucher to thank you for your time.

INTERVIEWER: REFER TO PANEL CRIB SHEET FOR FURTHER INFORMATION

Would it be okay for us to contact you as part of this research?

1. Yes
2. No
### Appendix B. Panel sample profile

**Appendix table B:1  May ’17 panel sample profile compared to population estimates**

<table>
<thead>
<tr>
<th></th>
<th>BSA population estimate (weighted)</th>
<th>BSA sample (unweighted)</th>
<th>Recruited to the panel (unweighted)</th>
<th>Active panel members (Unweighted) - May ’17</th>
<th>Panel survey sample (unweighted) - May ’17</th>
<th>Panel survey estimate (weighted) - May ’17</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sex</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>49%</td>
<td>44%</td>
<td>43%</td>
<td>43%</td>
<td>43%</td>
<td>48%</td>
</tr>
<tr>
<td>Female</td>
<td>51%</td>
<td>56%</td>
<td>57%</td>
<td>57%</td>
<td>57%</td>
<td>52%</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18-24</td>
<td>12%</td>
<td>6%</td>
<td>6%</td>
<td>7%</td>
<td>4%</td>
<td>11%</td>
</tr>
<tr>
<td>25-34</td>
<td>17%</td>
<td>15%</td>
<td>15%</td>
<td>16%</td>
<td>13%</td>
<td>17%</td>
</tr>
<tr>
<td>35-44</td>
<td>16%</td>
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</tr>
<tr>
<td>45-54</td>
<td>18%</td>
<td>17%</td>
<td>19%</td>
<td>20%</td>
<td>21%</td>
<td>18%</td>
</tr>
<tr>
<td>55-64</td>
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<td>17%</td>
<td>17%</td>
<td>17%</td>
<td>20%</td>
<td>15%</td>
</tr>
<tr>
<td>65+</td>
<td>22%</td>
<td>28%</td>
<td>23%</td>
<td>20%</td>
<td>24%</td>
<td>21%</td>
</tr>
<tr>
<td><strong>Region</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>North East</td>
<td>4%</td>
<td>5%</td>
<td>5%</td>
<td>5%</td>
<td>4%</td>
<td>4%</td>
</tr>
<tr>
<td>North West</td>
<td>11%</td>
<td>13%</td>
<td>13%</td>
<td>13%</td>
<td>12%</td>
<td>11%</td>
</tr>
<tr>
<td>Yorkshire and The Humber</td>
<td>9%</td>
<td>8%</td>
<td>8%</td>
<td>8%</td>
<td>8%</td>
<td>9%</td>
</tr>
<tr>
<td>East Midlands</td>
<td>7%</td>
<td>9%</td>
<td>9%</td>
<td>9%</td>
<td>9%</td>
<td>7%</td>
</tr>
<tr>
<td>West Midlands</td>
<td>9%</td>
<td>9%</td>
<td>9%</td>
<td>9%</td>
<td>9%</td>
<td>9%</td>
</tr>
<tr>
<td>East of England</td>
<td>10%</td>
<td>9%</td>
<td>9%</td>
<td>9%</td>
<td>10%</td>
<td>10%</td>
</tr>
</tbody>
</table>
Appendix table B:1  May ’17 panel sample profile compared to population estimates

<table>
<thead>
<tr>
<th>Location</th>
<th>Managerial &amp; professional occupations</th>
<th>Intermediate occupations</th>
<th>Employers in small org; own account workers</th>
<th>Lower supervisory &amp; technical occupations</th>
<th>Semi-routine &amp; routine occupations</th>
<th>Highest level of education</th>
</tr>
</thead>
<tbody>
<tr>
<td>London</td>
<td>38%</td>
<td>12%</td>
<td>9%</td>
<td>8%</td>
<td>28%</td>
<td>Degree</td>
</tr>
<tr>
<td>South East</td>
<td>38%</td>
<td>13%</td>
<td>9%</td>
<td>8%</td>
<td>28%</td>
<td>Higher education below degree</td>
</tr>
<tr>
<td>South West</td>
<td>43%</td>
<td>12%</td>
<td>9%</td>
<td>9%</td>
<td>25%</td>
<td>A level or equivalent</td>
</tr>
<tr>
<td>Wales</td>
<td>44%</td>
<td>13%</td>
<td>9%</td>
<td>8%</td>
<td>24%</td>
<td>O level/CSE or equivalent</td>
</tr>
<tr>
<td>Scotland</td>
<td>50%</td>
<td>14%</td>
<td>9%</td>
<td>7%</td>
<td>19%</td>
<td>Foreign or other</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>No qualification</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>London</th>
<th>South East</th>
<th>South West</th>
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<th>Scotland</th>
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<tr>
<td>Social grade</td>
<td>Managerial &amp; professional occupations</td>
<td>13%</td>
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<td>10%</td>
</tr>
<tr>
<td></td>
<td>Intermediate occupations</td>
<td>14%</td>
<td>15%</td>
<td>17%</td>
<td>16%</td>
</tr>
<tr>
<td></td>
<td>Employers in small org; own account</td>
<td>9%</td>
<td>9%</td>
<td>9%</td>
<td>9%</td>
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<td></td>
<td>occupations</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Lower supervisory &amp; technical occupations</td>
<td>5%</td>
<td>5%</td>
<td>4%</td>
<td>4%</td>
</tr>
<tr>
<td></td>
<td>Semi-routine &amp; routine occupations</td>
<td>9%</td>
<td>9%</td>
<td>8%</td>
<td>8%</td>
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<tr>
<td>Highest level of</td>
<td>Degree</td>
<td>24%</td>
<td>23%</td>
<td>27%</td>
<td>28%</td>
</tr>
<tr>
<td>education</td>
<td>Higher education below degree</td>
<td>11%</td>
<td>11%</td>
<td>13%</td>
<td>13%</td>
</tr>
<tr>
<td></td>
<td>A level or equivalent</td>
<td>19%</td>
<td>17%</td>
<td>19%</td>
<td>20%</td>
</tr>
<tr>
<td></td>
<td>O level/CSE or equivalent</td>
<td>26%</td>
<td>26%</td>
<td>26%</td>
<td>26%</td>
</tr>
<tr>
<td></td>
<td>Foreign or other</td>
<td>3%</td>
<td>2%</td>
<td>2%</td>
<td>2%</td>
</tr>
<tr>
<td></td>
<td>No qualification</td>
<td>17%</td>
<td>21%</td>
<td>13%</td>
<td>12%</td>
</tr>
</tbody>
</table>

NatCen Social Research | Developing the NatCen Panel
### Household type

<table>
<thead>
<tr>
<th>Household type</th>
<th>17%</th>
<th>29%</th>
<th>26%</th>
<th>25%</th>
<th>26%</th>
<th>17%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single person household</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lone parent</td>
<td>4%</td>
<td>6%</td>
<td>8%</td>
<td>8%</td>
<td>6%</td>
<td>4%</td>
</tr>
<tr>
<td>2 adults (no children)</td>
<td>36%</td>
<td>34%</td>
<td>33%</td>
<td>33%</td>
<td>37%</td>
<td>37%</td>
</tr>
<tr>
<td>2 adults (with children)</td>
<td>21%</td>
<td>18%</td>
<td>20%</td>
<td>21%</td>
<td>20%</td>
<td>20%</td>
</tr>
<tr>
<td>3+ adults (no children)</td>
<td>15%</td>
<td>8%</td>
<td>9%</td>
<td>9%</td>
<td>8%</td>
<td>15%</td>
</tr>
<tr>
<td>3+ adults (with children)</td>
<td>7%</td>
<td>4%</td>
<td>4%</td>
<td>4%</td>
<td>3%</td>
<td>7%</td>
</tr>
</tbody>
</table>

### Economic activity

<table>
<thead>
<tr>
<th>Economic activity</th>
<th>5%</th>
<th>3%</th>
<th>3%</th>
<th>3%</th>
<th>2%</th>
<th>4%</th>
</tr>
</thead>
<tbody>
<tr>
<td>In full-time education/training</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In work, waiting to take up work</td>
<td>56%</td>
<td>52%</td>
<td>56%</td>
<td>58%</td>
<td>57%</td>
<td>57%</td>
</tr>
<tr>
<td>Unemployed</td>
<td>5%</td>
<td>4%</td>
<td>5%</td>
<td>5%</td>
<td>4%</td>
<td>5%</td>
</tr>
<tr>
<td>Retired</td>
<td>23%</td>
<td>29%</td>
<td>25%</td>
<td>22%</td>
<td>27%</td>
<td>23%</td>
</tr>
<tr>
<td>Other</td>
<td>11%</td>
<td>12%</td>
<td>12%</td>
<td>12%</td>
<td>11%</td>
<td>11%</td>
</tr>
</tbody>
</table>

### Tenure

<table>
<thead>
<tr>
<th>Tenure</th>
<th>64%</th>
<th>64%</th>
<th>65%</th>
<th>64%</th>
<th>72%</th>
<th>64%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Owned/being bought</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rented (LA)</td>
<td>10%</td>
<td>11%</td>
<td>10%</td>
<td>9%</td>
<td>6%</td>
<td>9%</td>
</tr>
<tr>
<td>Rented (HA/Trust/New Town)</td>
<td>7%</td>
<td>8%</td>
<td>8%</td>
<td>8%</td>
<td>6%</td>
<td>8%</td>
</tr>
<tr>
<td>Rented (Other)</td>
<td>18%</td>
<td>16%</td>
<td>17%</td>
<td>18%</td>
<td>15%</td>
<td>18%</td>
</tr>
<tr>
<td>Other</td>
<td>1%</td>
<td>1%</td>
<td>1%</td>
<td>1%</td>
<td>1%</td>
<td>1%</td>
</tr>
</tbody>
</table>