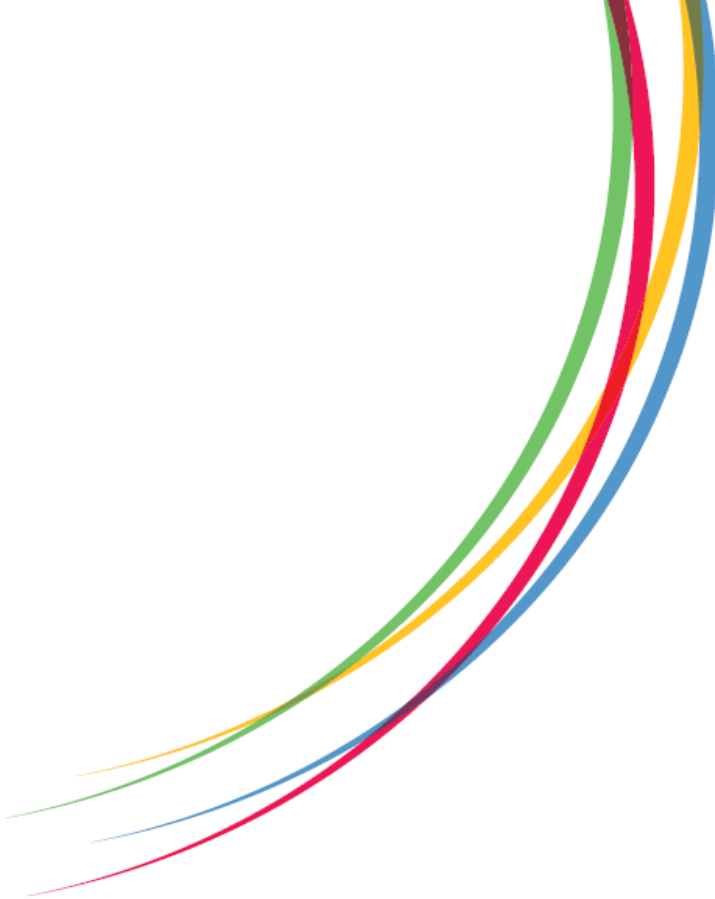




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Methods for recruitment and retention

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Non-technical summary

Interviewers play an important role in locating sample members and persuading them to participate: attention should therefore be given to interviewer recruitment, training, and motivation/remuneration.

Web-first recruitment with face-to-face follow-up may be as successful as face-to-face-only, though further research is needed to establish the most effective messaging and the effects on subsequent retention.

Respondent communications play a central role in facilitating recruitment and retention. The design of all letters, emails and other materials to be seen by sample members needs careful attention. Influential aspects include brevity, clarity, motivating statements, and targeted messaging to emphasise salient features of the study.

Investment in systems to keep respondent contact details up to date – and to use all known contact details effectively at each wave of data collection – is essential for sample retention.

Design features to encourage retention should be targeted at relevant sample subgroups. It can be cost-effective to restrict resource-intensive methods to subgroups at greatest risk of attrition.

Methods for recruitment and retention

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Abstract: Sample recruitment and sample retention play a crucial role in ensuring that longitudinal surveys remain representative of the population of interest and fit to support inferential analyses of the kinds required by users. This paper explores the different methods used for recruitment and sample retention in Understanding Society.

Keywords: recruitment, retention, incentives, interviewers, communications

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Introduction

Sample recruitment and sample retention play a crucial role in ensuring that longitudinal surveys remain representative of the population of interest and fit to support inferential analyses of the kinds required by users. Design-based statistical inference relies on the use of probability sampling from a known population. Nonresponse, if differential between sample subgroups, can disturb the relative inclusion probabilities and thereby threaten the inferential basis (Dillman et al 2002). An equally important reason to be concerned about retention in longitudinal surveys is that, as sample size reduces, standard errors increase, possibly to the point that some estimates are no longer sufficiently precise to be useful. Thus, both the *level* and the *nature* of nonresponse are important – both at the sample recruitment stage and at subsequent waves of data collection.

Sample recruitment

Sample recruitment involves gaining the co-operation of a pre-selected probability sample. The process of recruitment can be thought of as consisting of three main stages, each of which must be completed successfully: the sample member must be located, they must be contacted, and they must agree to co-operate (Groves and Couper, 1998). Approaches to recruitment must therefore tackle each of these three stages. The range of issues to be addressed at each stage and methods for doing so are outlined in Lynn (2008).

Fundamental aspects of the survey design and the tasks of sample members can influence the extent and nature of nonresponse. For example, it is by definition easier to obtain response if the survey allows any household member to participate on behalf of the household than if a specific pre-selected individual must participate. It is harder still to obtain response if *all* household members must participate. Similarly, the extent to which the survey is (perceived to be) burdensome will be influential. The difficulty of recruiting panel members increases with the frequency of participation, the length of interviews, the sensitivity of information to be collected, and so on. Having to use address-based sampling rather than a sample of named individuals also introduces an additional barrier to recruitment, as an additional step of identifying and selecting residents is needed (Koch 2019; Lynn forthcoming).

There is considerable variation between longitudinal surveys in terms of how, and at what stage in the process, a sample member is considered to have been successfully recruited. A key distinction is between studies in which recruitment into a longitudinal study is an explicit step that takes place before any data are collected and studies where the explicit request to participate in repeated data collection is made only after the first stage of data collection (typically, an initial interview) has been completed. Recruitment can only really be considered successful if the sample member actually participates/provides data, so for the remainder of this briefing, we consider a sample member to have been recruited if they complete the first wave of data collection.

Sample retention

Repeated observations are necessary for the success of any longitudinal study. While a necessary condition for repeated observations is that a sample member remains available to be contacted, we do not consider this sufficient. Only if they actually provide data repeatedly can they contribute to longitudinal analysis. We therefore define retention as repeated participation. At each data collection step (wave), the key stages in the retention process are the same as for recruitment, namely location, contact, and co-operation (Lepkowski and Couper 2002). However, the nature of the task at each stage, and the risk of failure, is different. For example, locating sample members at the recruitment stage is generally straightforward provided the sampling frame is reasonably up-to-date and contains location information such as a postal address, whereas at subsequent waves the task is more challenging in the case of sample members who have moved. The extent of the challenge of location therefore depends on the interval between waves and the extent of mobility in the study population. In addition to data collection steps, other survey procedures can influence the likelihood of retention at the next wave. These include between-wave communications with sample members and between-wave tracking procedures.

The willingness of a sample member to participate again will be strongly influenced by their experience of previous participation (Lynn, 2018). If they found the experience to be challenging, embarrassing, sensitive or simply time-consuming, they will be less likely to participate again. It is particularly important at wave 2 that sample members should have had a positive experience at wave 1 if they are to be retained.

Recruitment methods for longitudinal surveys

Several aspects of survey design and implementation have been shown to influence the success of sample recruitment. If the recruitment is to be interviewer-administered, an initial written communication to potential sample members is effective (de Leeuw et al, 2007; Goldstein and Jennings, 2002; Link and Mokdad 2005; White et al, 1998). The choice of data collection mode(s) has major implications for recruitment. Face-to-face data collection using field interviewers offers the greatest chance to locate sample members (Couper and Ofstedal 2009) and tends to produce the highest co-operation rates (De Leeuw 2005), but it is also the most expensive mode. Self-completion methods (e.g. web or mail) offer much more limited opportunities for locating sample members or for persuading reluctant sample members. Increasingly, surveys are seeking a balance between the cost and nonresponse implications of different modes by employing mixed-mode designs in which personal home visits are utilised only when other cheaper modes have been unsuccessful in securing participation (Dillman 2017). Two recent experiments on longitudinal surveys have suggested that

recruitment rates can be as high with a web-first mixed-mode approach as with a single-mode face-to-face approach (Blom et al, 2019; Lynn, forthcoming).

In interviewer-administered modes, effective calling patterns can both reduce non-contact rates and improve co-operation rates (Durrant et al, 2010; Durrant et al, 2019; Purdon et al, 1997). It is important for survey policy to insist on a minimum number of attempts and to specify ways in which these must be spread over days and times, and for survey procedures to ensure the policy is implemented. Interviewer training, motivation and attitude is also important in achieving high recruitment rates (Durrant et al, 2010; Groves and McGonagle, 2001; Hox and De Leeuw, 2002; Jäckle et al, 2013).

When self-completion modes are used for initial recruitment, both the content and the presentation of the initial communication are important. Best practice is for invitation letters to be brief, simple to understand, contain motivational statements and to provide multiple means for the sample member to get in touch (Groves et al, 1992; Kaplowitz et al, 2012; Petrovčič et al, 2016). Multiple reminders to those who have not yet responded are also essential, and evidence suggests that these should vary in terms of

messaging and presentation.

Respondent motivation is a key driver of co-operation propensity. Methods that have been used successfully to increase respondent motivation have included messaging to increase the saliency of the study, to emphasise that participation would be helpful, and to explain that taking part is not overly burdensome (Mowen and Cialdini, 1980; Porter and Whitcomb, 2003). Invoking the norms of authority, scarcity and/or social validation can improve response (Groves et al, 1992). Offering tangible rewards for participation, such as points, gifts or payments can also be effective. Respondent incentives generally improve recruitment rates, with a stronger effect for higher-value incentives, though effects can be uneven across sample subgroups. Unconditional incentives are generally more effective than conditional ones and money or money-equivalent is generally more effective than gifts, charitable donations or lottery entries (Cantor et al, 2008; Church, 1993; Edwards et al, 2002; Singer and Ye, 2013; Singer et al, 1999).

Retention methods for longitudinal surveys

Methods for locating sample members

The considerable effort typically invested by longitudinal surveys in keeping location details up-to-date is of three types: anticipatory measures, between-wave measures and in-wave measures. The

second of these three categories includes continuous activities such as maintaining a sample contact data base and regular matching of sample members with external databases containing contact information. Effective anticipatory measures include collecting a wide range of potential contact information (addresses, phone numbers, email addresses; home and work; and for family/friends). This is often done at each wave (Laurie et al, 1999). Sample members are also typically asked whether they expect to move home. A positive answer can trigger additional follow-up. Between-wave measures include mailings which are ostensibly of survey news, findings, or greetings cards, but include also an explicit request to update contact information. In-wave measures include local tracing of movers carried out by interviewers in the field and in-office tracing carried out centrally.

Many, but not all, of the features generally believed to be best practice have been shown to improve retention rates, at least in some circumstances. These include the design of mailings requesting address updates (Fumagalli et al 2013; McGonagle et al 2013), the content of between-wave mailings (Cleary & Balmer, 2015), the use of multiple search methods to trace movers (Groves and Hansen 1996; Laurie et al 1999), and the between-wave interval (Duncan and Kalton 1997; Taylor and Lynn 1997). The use of social media to trace “lost” sample members proved useful in some early studies of special populations (Mychasiuk and Benzies, 2011; Rhodes and Marks, 2011; Schneider et al, 2015), but has not been found to be effective in more recent studies or amongst general populations (Calderwood et al, forthcoming).

Methods for minimising non-contacts

Methods for minimising non-contact at each wave of a longitudinal survey should include those described in section 2 above; the same issues apply. But additionally, information collected previously, including paradata from the survey data collection process, can be used to help inform data collection at the current wave. Information such as the days and times of previous successful (and unsuccessful) contacts and the economic activity status of household members can be fed forward to current wave interviewers or incorporated in call scheduling algorithms (e.g. Kreuter & Müller, 2015). The information can also be used in statistical models to predict ease-of-contact and likely preferable contact times/days for each sample member, with the predictions subsequently used to improve the effectiveness of field work (e.g. Calderwood et al, 2012; Luiten & Schouten, 2013).

Methods for maximising co-operation

It seems likely that the respondent’s experience of participating in previous waves will be a major influence on willingness to continue (Kalton et al 1990; Hill and Willis 2001; Olsen 2005). However, experiments with including interesting or relevant questions have found no effect on co-operation propensity at the subsequent wave (Oudejans and Scherpenzeel, 2012; Kaminska and Lynn, 2016). It is likely that a respondent’s overall impressions of taking part are not greatly influenced by the

addition of a few interesting questions. Rather, the overall topic(s), tone, burden and sensitivity of the data collection are likely to be influential. However, retention rates seem to be rather insensitive to modest variations in interview length (Bogen, 1996; Lynn, 2014a), with the possible exception of telephone interviews (Fricker et al, 2012).

Interviewers can play a major role in persuading reluctant sample members to continue to take part in a longitudinal survey. Retention rates are therefore likely to be considerably higher with interviewer-administered data collection than with self-completion. However, experience on *Understanding Society* (University of Essex, 2018) has shown that a judicious mix of online and interviewer modes can provide retention rates at least as high as single-mode face-to-face interviewing (Bianchi et al, 2017; Lynn 2013). There is little evidence that interviewer continuity improves response rates; the overall experience level of the interviewer is likely to be more important (Campanelli and O’Muircheartaigh, 2002; Lynn et al, 2014). The size of interviewer workloads can also affect response rates (Nicoletti and Buck 2004).

A number of studies have shown that the content and nature of communications with longitudinal survey sample members influences co-operation rates. These communications include the advance letter (Lynn, 2016; Lynn, in press) and brochures mailed to sample members between waves (Cleary & Balmer, 2015; Fumagalli et al 2013).

The salience of the survey topic and respondent motivation are important influences on co-operation (Groves and Couper, 1998). The effects of interviewers and of respondent communications operate largely through facilitating and emphasising these factors.

Respondent incentives are effective at boosting retention rates (Booker et al, 2011; Laurie and Lynn 2009; Schoeni et al, 2013). The effect tends to increase with the value of the incentive (Booker et al, 2011), but there appears to be little “carry-over” effect of the value of an incentive at one wave on the probability of retention at the subsequent wave; the effect of the value at the current wave is dominant (Rodgers, 2011; own analysis of *Understanding Society* Innovation Panel data). Unconditional incentives are generally more effective than conditional ones (Felderer et al, 2018; Singer and Ye, 2013) but recent experimentation on *Understanding Society* has found that a deadline-dependent conditional incentive can improve online response (Carpenter and Burton, 2018).

Targeted designs

The effects of survey design features intended to boost retention are often uneven across sample subgroups. Recognising this, targeted designs (Lynn 2014b) involve deploying such features only amongst the subgroups for whom they are expected to have a positive effect, or deploying different versions of the feature for different subgroups. Longitudinal surveys are in a strong position to do this as the wealth of information collected at previous waves can be used to identify target groups.

Research into targeted designs is still in its infancy, but early studies have reported promising results regarding retention in longitudinal surveys (Lynn, 2017).

The chances of re-locating sample members can be improved by targeting efforts to update contact information at sample members predicted to be at the greatest risk of losing touch with the survey (Cleary & Balmer, 2015; Fumagalli et al 2013; Lynn, 2012; McGonagle et al 2013). It is possible to target non-contact reduction strategies at sample members predicted to be at high risk of non-contact, but such strategies have, to date, proved limited in their effectiveness (Calderwood et al, 2012; Luiten & Schouten, 2013; Kreuter & Müller, 2015). Further research is needed to find effective ways to improve contact rates through targeting.

Targeted design features show rather more promise when it comes to improving co-operation. Studies have shown positive effects of targeted communications regarding the salience of the study (Cleary & Balmer, 2015; Fumagalli et al 2013; Lynn, 2016; Illemann Christensen et al, in press), and of motivational statements (Lynn, in press). Targeted methods that involve varying the content of respondent communications are relatively inexpensive to implement, making them particularly cost effective.

Challenging subgroups

Certain population subgroups present particular challenges in both recruitment and retention. The challenges could arise because members of the group are particularly hard to contact, particularly reluctant to co-operate, find it difficult to participate because of other reasons such as language barriers, or are particularly difficult to locate due to mobility. Some of the characteristics of sample members that make them challenging to recruit or retain may be permanent (at least for some people), such as language barriers, but most are time-variant and limited to certain stages of a person's life. These include things like being single and mobile, a recent immigrant, a prisoner, or homeless. Thus, in the context of a longitudinal survey, membership of a challenging subgroup is liable to change over time.

Methods for dealing with challenging subgroups involves applying specific procedures just to members of that subgroup. The procedures could relate to sampling, recruitment or retention. Effective use of such procedures would involve identifying appropriate sample subgroups and designing and implementing appropriate procedures for each such group. The subgroups should ideally be ones that a) suffer low recruitment or retention rates, and for which a modest proportionate increase in sample size would, b) substantially improve precision of separate or comparative analysis, or c) substantially reduce bias in total sample analysis (by improving sample balance). In other words, the intensive targeted procedures should be likely to make a useful improvement to estimation in terms of either variance or bias.

It is impossible to do justice within the constraints of this briefing note to the range of possible subgroups of interest, or targeted procedures, but some examples follow:

Young, single, employed people. People with these characteristics suffer relatively low retention rates, largely due to difficulties in keeping in touch, related to frequency of moving home (Lynn, 2012). The challenge is to keep in touch with them until they reach a more “settled” phase of their life. Intensive pre-emptive tracking methods could be used with this subgroup (frequent between-wave contacts), with a focus on online contact.

Recently divorced/separated. People in this situation are often reluctant to give an interview, perhaps because they know it will address recent changes in their life and sensitive issues and/or because their life is rather hectic/busy. It might be effective to try minimally-intrusive methods for a year or two (keeping in touch, but collecting little or no data) if necessary, before returning to the full data collection protocol. A similar approach could apply after other traumatic life events.

Recent immigrants. Mistrust or a lack of understanding of the nature of the survey request may be a barrier to co-operation for some members of this group. Targeted communications to emphasise the salience of the survey to immigrants and the use made of survey data in the UK may help. Language barriers may be an issue for some recent immigrants, so provision of relevant survey materials in relevant languages at appropriate points in the data collection process, including interviewing, can be effective (Lynn et al, 2018).

Ethnic minorities. Some issues overlap with those described above for immigrants. But others are distinct and it can be helpful, for example, to aim for ethnic matching of interviewers and respondents, or at least avoiding certain mis-matches (Erens, 2013; McManus et al, 2006).

Inner city areas. The densest urban areas present both access and availability problems. Security gates and locked doors often prevent access to multiple dwelling properties. Some have the service of a concierge. Additionally, many residents of such properties are rarely at home and some flats are second homes, e.g. used only during the working week. A combination of personalised targeted written communications and alternative contact modes could help.

Mental or physical incapacity. For sample members who are simply unable to give an interview or provide data, the option of a proxy interview with a close relative or carer can be effective.

Busy people. For people who work long hours, have long commutes or travel away frequently, offering alternative data collection modes and being particularly flexible about interview scheduling could be important (Fumagalli et al, 2013, found that work-busy people were more likely to give a (shorter) telephone interview rather than a longer face-to-face interview).

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