Collaborative PhD: Complex surveys on mobile devices

The past fifteen years has seen a rapid growth in the use of web survey data collection methods (Couper & Miller, 2008; Couper, 2011). Alongside this expansion of the use of the medium, considerable research effort has advanced aspects of the methodology of web surveys. This has included issues in sampling, gaining respondent co-operation, measurement and instrument design, and weighting and data analysis (Bethlehem & Biffignandi, 2012; Couper 2008). However, in social research the considerable advances in instrument design have mainly been focussed on a routine personal computer context in which the respondent has a large screen, a standard web browser, and a full-sized keyboard. If the respondent is instead accessing a survey questionnaire through a mobile device, they typically have a much smaller screen and do not have a keyboard. This significantly affects both how information is displayed to the respondent and how the respondent communicates answers. These differences between the mobile and the PC context have the potential to affect the way respondents answer questions and hence to introduce differential measurement effects. As there has been a considerable growth in recent years in mobile internet access, survey researchers can expect considerable, and increasing, numbers of survey sample members to access web surveys through mobile devices (Callegaro, 2010). Around 1 in 5 currently do so in the UK.

Though some efforts have been made to develop social survey applications for mobile devices (Peytchev & Hill, 2010), these have to date tended to be either rather simple applications (simple questions, simple answer options, short questionnaires) or device-specific, though there are exceptions (e.g. Buskirk & Andrus, 2012; Fernee & Scherpenzeel, 2013). In market research, there is considerable practical experience in designing questions for mobile devices but very little of this has found its way to accessible publications. The big challenge for the survey research community is to develop instruments for long, complicated surveys. This includes dealing with grid questions, long questions/preambles, long answer lists, open-ended responses, and so on. In the context of longitudinal surveys, additional issues arise, such as the need to feed forward data for the purposes of dependent interviewing (Jäckle, 2009), the possibility of targeting or controlling the mode of access to the survey over time, and the possibility of obtaining supplementary data through mobile devices in-between the regular survey waves. Furthermore, for probability-based general population surveys, mobile devices will, at least for the foreseeable future, be used in the context of mixed-mode designs, in which other respondents use PCs or different modes of data collection, such as interviewer-administered modes. Issues of compatibility and consistency between modes therefore arise.

This studentship will provide an opportunity for a talented student to take advantage of the context of Understanding Society to explore methodological issues surrounding the use of mobile devices for self-completion in the context of a complex, longitudinal household survey. Understanding Society is a sophisticated, complex survey which is committed to mixed-mode data collection. A programme of ground-breaking experimentation into combining PC-based web data collection with face-to-face interviewing has already been carried out, using the study’s unique methodological research vehicle, the Innovation Panel (Uhrig, 2011). Both the study’s Scientific Leadership Team, based at ISER, and the data collection partners, TNS BMRB, are keen to develop a capacity to enable survey response via mobile devices. But this must be done in a way which does not jeopardise key aspects of survey quality. Specifically, this means that measurement should be equivalent to other modes and that the
experience of attempting to respond using a mobile device should not have a negative impact on the likelihood of sample members continuing to participate in the survey.

It is therefore specifically envisaged that the student’s research will address one or more of the following areas:

- Instrument design for mobile devices and measurement error;
- The implications of long/complex questions or response options on mobile devices;
- The effect of offering mobile participation on response rates and attrition, and how these may differ between sample subgroups;
- Other technical, logistical or statistical considerations for mobile response in the context of a large-scale mixed-mode longitudinal household survey.

The student is expected to make an important contribution to the development of this emerging field. Survey researchers around the world will be interested in the research.

The student will benefit both from the unique research environment at ISER and the expertise and practical context of TNS BMRB. ISER is the only academic institution in the UK offering a high concentration of specialised research and teaching in survey data collection methods, while TNS BMRB is one of the UK’s leading social survey research institutes, with vast experience of carrying out large, complex surveys for government, universities and other public sector bodies. TNS BMRB also has access to a large commercial online panel as well as a panel specifically built for mobile device data collection. Both could potentially be used by the student as a test-bed. TNS BMRB sits within a large international network of market and social research companies and benefits from global development work in this area. TNS BMRB can therefore bring experience in the design of mobile surveys to the project. The student will spend the majority of term-time at ISER, to take maximum advantage of courses, seminars and other relevant learning opportunities, but will spend the equivalent of at least 8 weeks a year based at the TNS BMRB offices in London. How the time will be apportioned will be agreed between the student and supervisors, depending on the nature of the developing research and other considerations. The need for frequent travel between Colchester and London should be assumed.

The PhD will be supervised by Peter Lynn (Professor of Survey Methodology) at ISER and Joel Williams (Head of Methods) at TNS BMRB.

This studentship will be based in the accredited Essex Doctoral Training Centre pathway “Survey Methodology”. The studentship would be for three years, beginning in October 2014. It is a collaborative studentship jointly funded by TNS BMRB and an ESRC studentship awarded through the University of Essex Doctoral Training Centre.

References


