

Innovation in Survey Methodology

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The Problem

NSF (and NIH) funded surveys have historically provided key leadership in survey innovation, quality, and implementation. The knowledge produced by these studies has not only shaped basic social science research, it has also shaped the rapidly growing use of surveys in the private sector.

Yet, we have reached a critical period in survey research that is characterized both by significant challenges, which could undermine survey quality, and rapidly evolving technologies and innovations, which could substantially improve survey quality. All major social surveys, including the NSF funded GSS, ANES and PSID, are facing these same issues. Though not exhaustive, these include rising rates of non-response, increased attrition, questions regarding the acceleration of the use and size of incentives, a push for web based designs and, more generally, the possibilities of new technologies (e.g. phones, wearable technologies) to collect data both passively and actively (National Research Council 2013; National Science Foundation Subcommittee on Advancing SBE Survey Research 2015). The evidence base, however, for making scientifically sound choices surrounding all of these changes is not as strong as would be desired.

Given NSF's leadership in producing and maintaining high quality surveys and survey research, it is well positioned to maintain this leadership role by pushing the field forward during this critical juncture in survey research. The benefits that come from a NSF led initiative to address these challenges would not only benefit NSF funded surveys, but would also benefit the broader community of survey research, funded by both the federal government and the private sector.

The current scientific strategy to address these broader survey methodological issues involves ANES, GSS, PSID (and other surveys with federal grant funding) each tackling these challenges in-house and in isolation from each other. Most surveys, including the NSF Big Three, are conducting a range of both ad-hoc and systematic analyses to try to stave off further declines in response rates, innovate with new data collection technologies, as well as navigate the growing demand for web-based surveys from younger cohorts. These efforts are contextualized by increasing demands to better control costs in survey research.

There are challenges, however, with the current strategy focused on in-house experimentation and analysis. First, using existing survey samples (e.g. GSS, PSID) to embed experiments threatens the survey because it shifts scarce survey time towards methods experiments and away from their substantive purposes. Second, given the latter issue, experiments that are performed tend to be underpowered because of the need to maintain the sample. As a consequence, tests are not as methodologically rigorous as would be desired given the high quality bar these surveys have set. Third, the analyses produced are rarely shared outside of the individual projects increasing the likelihood of inefficiencies; individual studies are likely testing the same design features in isolation from each other duplicating efforts and wasting resources.

Possible Solutions

The panel raised some options for considering how to address these issues. First, a new network could be generated that involved PIs from across the NSF funded studies—and perhaps also other federally funded surveys—to focus on these survey methodological issues. The network could also include independent experts in survey methods. This network—an Innovation Leadership Team—would be used to share information across the surveys regarding key survey methodological issues of concern to all of them. The network could also be employed to generate proposals and collaborations to address key concerns that arise across these studies. A key benefit of including a mixture of study team members (e.g. PIs), as well as outside experts, is to foster a collaborative process that would ensure agency and acceptance on the part of the PIs. PIs, of course, also bring to the table key knowledge particular to each study that is needed to address these broader concerns. Such a network would be distinct from an advisory board and more of a collaborative endeavor.

The second possibility, which could be something that is developed in the context of this network, is an innovation panel or innovation survey, which would constitute a separate sample on which to test everything from how to improve response rates to the effective take up and use of passive data collection in survey design. Essentially, this would become a resource for each of the studies to conduct survey methods tests. There are successful models of this approach utilized currently in the UK in the Understanding Society Innovation Panel and also in Germany with the German Socioeconomic Panel Innovation Sample (Baghai and Jäckle, 2016; Richter and Schupp, 2012). The potential benefits are large. The quality of methods testing would increase substantially. Individual studies would no longer need to rely on underpowered or ad hoc testing to make key decisions regarding incentives, the use of new technologies, mode effects from web based designs, and strategies to manage non-response among many other urgent challenges facing these projects. There is also the long term potential for cost containment. For example, large fractions of survey costs come from the relatively small number of survey participants who need repeated contacts for completion. Addressing this challenge in a systemic and evidenced based manner could produce both cost savings and increase survey quality.

There are a host of challenges in establishing a network that would need to be addressed. Examples include who would constitute the PI team and general leadership for the network (with one option being a rolling PI from each of the NSF funded surveys along with a more permanent PI), how to develop the program for an innovation panel in a way that is useful for both cross

sectional and longitudinal projects, and how to sort out priorities in terms of content. Nonetheless, there is extensive evidence, especially from the Understanding Society Innovation Panel, regarding how effective these panels can be to ensure survey quality. Indeed, in our committee, the PI from the Understanding Society Innovation Panel noted how frequently they were certain of a particular approach, such as regarding incentives, only to test it in the panel and find that they needed to fully abandon the approach of which they had been so certain. The concern is that many major US surveys are employing poor practices—or failing to employ best practices—simply due to a lack of high quality evidence. Addressing this limitation could have a major influence on the quality of these irreplaceable major surveys.

Some key examples of issues that could be addressed include: effects of conditional and unconditional monetary incentives; how to employ mixed modes (e.g. telephone and web), improving the efficiency of field methods, such as comparing different types of advance materials; the quality of recall data in different models; best strategies for ensuring consent to access administrative data that could be linked to surveys; and methods of reducing item non-response in web surveys. This list is by no means exhaustive, but these are the kinds of questions that could be explored in this kind of panel. Critically, all of these examples have the potential to reduce costs and improve survey quality.

In conclusion, there are a range of survey methodological challenges facing not only NSF funded surveys, but the broader field of survey research. The NSF could provide leadership in developing a coordinated response for the survey community to collectively address these challenges. We provided an outline of a broad—and flexible—approach as to how the NSF could provide this leadership.

References

- Baghai, T. and Jäckle, A. (2016). The UK Household Longitudinal Study Innovation Panel, Waves 1-8, User Manual. Economic and Social Research Council (ESRC).
- National Research Council. (2013). *Nonresponse in Social Science Surveys: A Research Agenda*. Panel on a Research Agenda for the Future of Social Science Data Collection. Committee on National Statistics, Division of Behavioral and Social Sciences and Education. Washington, DC: The National Academies Press.
- National Science Foundation Advisory Committee for the Social, Behavioral and Economic Sciences Subcommittee on Advancing SBE Survey Research. (2015). *A Report to the National Science Foundation Based on Two Conferences Held on October 3-4 and November 8-9, 2012*.
- Richter, D. and Schupp, J. (2012). SOEP Innovation Sample-Description, Structure and Documentation. *SOEP Papers on Multidisciplinary Panel Data Research*, Paper No. 463. DIW Berlin.