

# **Does the mode of data collection matter in demographic research?**

## **Insights from a GGP mode experiment study**

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### **Introduction**

Current survey taking climate is very challenging for researchers in demography and social sciences in general. New advances in knowledge constantly require new data to be collected. Therefore, the saturation with survey requests is also increasing. People feel overwhelmed with the number of surveys they are asked to participate in and tend to be more reluctant to respond to the requests. The response rates of surveys have been in constant decline over past decades and the representativity of samples can more often be challenged (Curtis et al, 2005). The efforts of survey designers to provide solutions regarding declining response to survey requests are also becoming more and more costly, thus increasing the overall cost of data collection.

### **Research aim**

In order to address the issues of declining response rates and increasing costs of data collection, alternative methods of data collection need to be taken into consideration. Web surveys represent a cost effective alternative to the more traditional personal face-to-face (F-t-F) interviewing. However, when we consider the use of web surveys in contrast to F-t-F one needs to account for design specifics of the mode, such as possible coverage problems, different nonresponse patterns and lack of interviewer on one hand. On the other hand the nature of web survey administration can yield information that is substantially different from the one attained via more traditional modes. The aim of this paper is to investigate whether there are differences among three distinctive modes of data collection: computer assisted personal interviewing (CAPI), computer assisted telephone interviewing (CATI) and web based survey (WEB). The differences due to mode effects will be looked at firstly with regard to nonresponse (both item and unit nonresponse) and secondly with regard to answers provided. The main challenge of this experiment represents the web implementation of a demographic questionnaire which is both long and complex due to inclusion of retrospective histories as well as measurement of social networks and prospective elements, for instance on fertility intentions. Although considerable amount of research has been accomplished studying effects of mode of data collection, there is no scientific evidence relating to large scale demographic surveys such as the Generations and Gender Survey, the survey which we analyse in this paper.

### Studies on mode effects

Studies on effects of mode of data collection distinguish between two schools of thought. One line focuses on mode effects on Total Survey Error (TSE), while the other one, on which we concentrate in this study, is more concerned with mode influence and focuses on issues pertaining to measurement. Main discourse within the TSE line of thought addresses issues such as coverage error (internet penetration, availability of adequate sampling frames), unit nonresponse (lower for web surveys – see Lozar Manfreda, et al., 2008), and other measurement errors associated with the data collection process itself.

The mode of data collection affects the measurement process at the level of the question and answer process and is manifested in sense of privacy and cognitive burden (de Leeuw, 1992). Modes vary in terms of presence of the interviewer, transmission of information (e.g. computer assistance) and medium related factors (e.g. survey taking climate, legitimacy, pace and locus of control). The presence of the interviewer, or lack thereof, will thus affect social desirability effect on provided answers (more open expression in self-administered mode), positive vs. negative answers (the presence of the interviewer stimulates more positive responses) and levels of acquiescence (it is easier to agree with the interviewer than disagree).

### Generations and Gender Programme

Generations and Gender Programme is a system of national large-scale comparative demographic panel surveys. The Programme aims at improving the knowledge base for policy-making in Europe and developed countries elsewhere. Central survey topics are fertility, partnership, transition to adulthood, economic activity as well as the intergenerational and gender relations between people expressed in care relations or the organization of paid and unpaid work. As a research infrastructure programme with long-term perspective, the GGP is highly concerned with issues of sustainability and cost. Study of alternative modes of data collection was highly prioritized in the process of re-designing the programme in order to reduce costs and at the same time maintain high quality of the data. This paper addresses some important findings from this study.

### Study design

The design of the study employs a randomized design into three selected modes of data collection. The experimental design had two stages of selection. At first a sample of pre-contacted respondents with contact details for all three modes was selected. Out of this preselected sample one third was assigned to each of the modes. The target sample size for each mode was n=200 completed questionnaires. Each sampled individual, irrespective of the mode, received an introduction letter, followed by either the contact from the interviewer or received e-mail with the link to the survey in the case of the web sample. Each individual stayed with the assigned mode and was not offered a switch in order to keep the modes “clean”.

## Analysis

The analysis focuses on the comparison of modes. Two main criteria are being analysed and tested for statistically significant differences: data quality (in terms of item nonresponse) and measurement equivalence (in terms of distribution comparisons). As the GGP questionnaire is very complex and holds over 1,000 questions (resulting in over 1,500 variables) a comparative analysis of modes requires a degree of aggregation. For this purpose a customized question typology (Kveder, 2005) will be used, which is rooted in the work of Saris and Gallhofer (2007). The typology is, on the one hand, based on general characteristics of questions such as response scale, topic, and context position within the questionnaire, as well as time scope. On the other hand it is classifying questions following a set of simplified linguistic constructs that tap into respondents' cognitive processing. The use of such a typology will provide answers as to which types of questions are sensitive to different mode effects. The analysis will firstly employ descriptive statistics with statistical tests for equality of distributions and secondly regression models of item nonresponse propensities to understand differential mechanisms of missing data.

## Implications for future research

The results of the proposed paper will provide an important insight into the possibility of conducting large-scale demographic surveys using web mode of data collection. They will contribute to the discourse on the quality of demographic data and open avenues for even more innovative demographic research. Once mode effects in demographic surveys are better understood, the possibilities of mixed mode surveys offer a potential to combine the strengths of various modes and thus increase the response rates and the data quality, while lowering the costs (Lugtig et al., 2011).

## References

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