

10th International Conference on Transport Survey Methods

Surveys on daily mobility are not “surveys to go”

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Abstract

With new technologies being readily available, it has become simpler to conduct surveys of all kinds. In addition, the focus of the data users has shifted from “how has the data been collected?, what are potential biases? and is the data valid enough?” to “how easily can the data be accessed?, how cheap is it? and does it support my ideas and actions?”. This development can also be observed in mobility surveys. It is too easy to forget that everyday mobility is an integral part of our lives, is important to people, needs motivation and care when surveyed, and requires good survey methodology.

This paper demonstrates that the basic requirements for valid mobility surveys have not changed much over the last four decades. In addition, it quantifies two effects rarely discussed in the international survey literature: 1) survey management as a whole does have an impact on the quality of results, and 2) lower response rates and smaller samples of completed surveys do not only have wider levels of statistical confidence but also noisier results.

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Peer-review under responsibility of International Steering Committee for Transport Survey Conferences ISCTSC

Keywords: Mobility surveys; survey management; non-reported trips; non-response; validity of mobility indicators; New KONTIV®-Design

1. The respondent

Only very few (if any) potential respondents wake up in the morning with the desire to become involved in a survey. Consequently, we cannot expect immediate agreement on participation; rather, we have to work hard to achieve it. In doing this, we need to be aware of a few principles. The most important principle is that a survey is a

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specific form of social interaction (Brög et al., 1977). All rules of such social interactions apply, and have to be abided by. This means, first and foremost, that we need to treat our respondents like partners in a social interaction. They are not a nuisance, or enemies, or our victims; rather, they are our customers. “Respondents are Customers” was the theme of the Fifth International Conference on Survey Methods 1997 (see Brög, 1997). The effect of this effort was limited, and it is timely to remember that without respondents we would have no surveys and no survey conferences.

If, however, we wish to conduct surveys with the respondents in mind, a major shift in conventional practices is indicated. It is not the interests of the researcher that have priority, with those of the respondents being adjusted, but the opposite: respondents always come first, and the interests of the researcher have to fit. This includes limiting response burdens as well as very careful and considerate use of new technologies. For many researchers this seems to be too complicated and too expensive, but in the end, it is always worthwhile (Ampt and Brög, 1982).

This applies to the choice of the survey method. Too often a method is chosen which is convenient for the researchers, and little thought is given to the situation of the respondents. But if we want to motivate the respondents to participate honestly and with interest, we need to provide circumstances which are respondent friendly. For that purpose, we have developed a design (KONTIV[®]-Design; see Brög et al., 1983) which matches these criteria. It understands that daily mobility is an important part of people’s lives. It uses a design which enables the respondents to be self-determined and fully aware of the whole survey process, and uses a self-administered diary in a mailback format. The respondents have the freedom to respond when it is convenient for them, they have time, and can give thoughtful answers, they know what is expected of them, they can consult with friends or the research organisation, and they can be motivated to participate in many ways. Respondents are taken seriously and treated as partners.

Socialdata has been applying this design for over 40 years in 13 countries, always for all household members, and in the last 25 years with no age limit. During that time Socialdata conducted 1,300 mobility surveys with 2.4 million respondents and an overall response rate of 72%. In Germany there are currently KONTIV[®]-surveys operating in four cities, running year round (every calendar day is a sample day), which have been going for more than 20 years. The total sample is around 5,000 respondents per year.

The organisation of these surveys is assigned to one or more regional field offices. In 2013, we changed the structure of these field offices which provided a special opportunity to measure the effect of survey management on survey success, a topic rarely dealt with in the international literature on survey methodology.

The indicators used to measure the quality of surveys are the response rate and the correctness and completeness of the responses. According to the design used (self-administered mailback), the response rate is an honest indicator of the motivation of the respondents as size and speed of response correlate with motivation, the quality of the responses and their willingness to participate with number of missing or false entries, and non-reported trips correlate with interest.

A broad discussion of response rates is provided by Axhausen et al. (2015) and an intense discussion of their effect on mobility indicators in Madre et al. (2006).

2. The experiment

Until June 2013 Socialdata had its main field office in the centre of Germany and two smaller offices to the east and west. The response rates for our ongoing mobility surveys were, until 2008, at or above 80%, and until 2012 around 70%. In the first half of 2013 the response rate dropped slightly to 67%.

In 2013 we decided to consolidate all field offices and to establish a new main field office. The start of the new main field office was, for our standards, very disappointing. Despite all our efforts, all the training which was given, and all the support we provided, the response rate dropped (with procedures unchanged) to 54%. The only variables that had changed were the survey management and the people who conducted and supervised the surveys.

In order to improve the response rate we conducted an experiment called COUPE (COntrolling the procedures, UPdating the techniques, Evaluating the processes). We selected a random sample of 1,680 people, sent our best supervisors, and applied the full array of KONTIV[®]-Instruments. We applied the New KONTIV[®]-Design (NKD) (Brög, 1996), where the telephone is used to motivate and guide respondents, but not to interview them.

The results did not fully meet expectations. As shown in Table 1, the overall response rate was 66%; for households with listed phone number 72%, and for those without 62%. Taking into account that motivation via

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