

Workshop A6 - Representativeness in surveys: challenges and solutions

Workshop chair:

Jimmy ARMOOGUM, IFSTTAR, France

Adrian ELLISON, Institute of Transport and Logistics Studies, The University of Sydney,
Australia

In this workshop on “representativeness in surveys: challenges and solutions” for mobility surveys, we will address three different issues. We will tackle the questions of sampling frame and sampling then we will discuss total non-response and measurement errors and propose solutions or best practices to limit these biases.

The defects of sampling frame are: differences with the target population of the survey (under or over coverage), presence of duplicates, lack of updates or errors in the information used or collected. We should address the question on how to limit lack of coverage of sampling frames? Total non-response is the failure of a unit in the sample frame to participate in the survey and could be important for some hard to reach populations. In the context of travel diary surveys, unit nonresponse can arise for a number of different reasons including refusal, non-contact, infirmity or temporary absence.

The measurement error is the difference between a measured value of quantity and its true value. There are several sources of measurement error: Social desirability bias about the behaviour; interviewer effect (in person vs. paper/web); desires to influence policy; memory; imprecision; proxy responses.

The best way to avoid problems with representativeness in surveys is to tackle the problem upstream (good sampling frame, follow-up with respondents, incentives, response facilitators, etc.) but still at the end of the day we will need to reweight the respondent sample to account for differential probabilities of selection among subgroups; effects arising from non-response; inadequacies in sample frame, etc. and bring the respondent sample data up to the dimension of study population

Papers for oral presentation

- Martin Kagerbauer and Juliane Stark.
Does Supervision in Multi-Day Travel Surveys Lead to Higher Quality? A Comparison of Two Independent Surveys
- Stacey Bricka.
A New Take on An Old Issue: Informing Sampling Priorities for Small Sample Household Travel Surveys
- Elizabeth Ampt, Mark Davis and Elizabeth Stark.
Monitoring car use over extended periods with GPS devices – retaining response rates and understanding reactions
- Adrian Ellison, Nina Verzosa, Stephen Greaves and Richard Ellison.
Who stays in? An analysis of participation and data quality in longitudinal transport surveys

Papers for poster presentation related to workshop

- Raymond Hoogendoorn, Eline Scheepers and Sascha Hoogendoorn-Lanser.
Determining the representativeness of samples in mobility panels through inverted relative entropy
- Lissy La Paix, Marie-José Olde-Kalter and Karst Geurs.
Measurement of non-random attrition effects on mobility rates using trip diaries data
- Hubert Verreault and Catherine Morency.
Impact of the call/recall strategy during household surveys on data quality
- Siva Srikukenthiran, Khandker Nurul Habib, Eric Miller and Tian Lin.
Inverted Sampling Frames to overcome Under-Coverage of specific Population Cohorts: Examining the viability of recruiting households via employers and institutions
- Fabio Rendina, Jimmy Armoogum and Mathieu Rabaud.
Calibration strategies to reweight travel surveys: the case of household urban travel surveys in France