Innovation in online data collection for scientific research: the Dutch MESS project

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CentERdata

An independent non-profit institute housed at the campus of Tilburg University (The Netherlands)

Three main activities:
- data collection / online survey research
- quantitative research, policy analysis and model development
- software solutions (tailor-made software for data collection and dissemination)
MESS Project: a highly advanced research infrastructure for the social sciences

Open to scientists worldwide
Central element MESS project: LISS panel

- Online panel of 4,500 households
  - 7,000 individuals (>= 16 years)

- Questionnaires each month, 30 min.

- Incentive 15 euro an hour (average)

- For scientific use, at no cost
Why use online panels for scientific research?
Disadvantages online surveys

- **Noncoverage:**
  - Persons without Internet are usually excluded

- **No probability sample:**
  - Visitors of specific websites
  - Self-selection (interested, strong opinions, specific goal)
LISS panel

- Online interviews as method, but:
- Probability sample drawn from address sampling frame of Statistics Netherlands
- Includes households without Internet access (less than 15%): CentERdata provides equipment
- Contacted by letter, telephone or visit
Households without Internet
simPC

Small and silent

Only the most frequently used functions

Automatic maintenance, safety

Simple operation and readable screens

Installation and support
Recruitment of LISS panel
Recruitment

Letter and brochure

Short interview

Panel question

Confirmation

Households without Internet

SimPC and broadband

Households with Internet

Internet interviews
Response

Letter and brochure

Primary response target: 80%

SimPC and broadband

Internet interviews

Confirmation

Secondary response target: 60%

Panel question

Households with Internet

Tertiary response target: 53%
## Recruitment experiment

### Experimental design

|                              | CATI                  | CAPI                  | N  |
|------------------------------|-----------------------|-----------------------|----|
|                              | Special letter        | Standard letter       |     |
| Prepaid incentive            | Introduce panel in letter | 0 euro | 10 euro | 200 |
|                              |                       |                       |     |
|                              | Introduce panel after interview | 20 euro | 50 euro | 300 |
| Promised incentive           | Introduce panel in letter | 0 euro | 10 euro | 400 |
|                              | Introduce panel after interview | 50 euro | 20 euro | 300 |
| N                            | 200                   | 200                   | 400 | 400 | 1200 |
Effect of incentives

- incentives increase response rates
  - effect is large from 0 to 10 euro (increase of 15%)
  - effect is not significant from 10 to 20, 20 to 50 euro (about 3%)

- prepaid works better than promised
Effect of information

- no effect of letter content
- no effect of timing panel introduction
- effect of seeing/reading brochure
Set up main recruitment

- Combination CATI – CAPI, follow up CAPI
- Prepaid 10 euro incentive
- Promised extra 10 euro incentive for starting
- Attention to design letter and brochure
# Response in recruitment

| Recruitment stage (households)                                      | % of total gross sample |
|---------------------------------------------------------------------|-------------------------|
| Reached                                                             | 90                      |
| Completed interview or central questions                            | 75                      |
| Willing to participate in panel                                     | 63                      |
| Registered as panel member                                          | 48                      |
| Total gross sample*                                                 | 9844                    |

*excluding not usable addresses (308)
Non-response patterns

**Similar** to those of other leading scientific panels

**Superior** to commercial access and volunteer panels:

- no coverage problems
- no self-selection
Attention for difficult groups

- Correction by refreshment sample in 2009 (stratified) and 2011 (random), in close collaboration with Statistics Netherlands

- Separate immigrant panel in 2011 (with Cross-cultural Psychology, Tilburg University and Statistics Netherlands)
Use of the LISS panel
Use of infrastructure

1. Collection of *new* data; proposals can be submitted throughout the year

→ Budget available for academic researchers to use the LISS panel

2. Use of *existing* data (free of charge)

→ Available data:
  - longitudinal core study
  - proposed studies
1. Collection of new data

- **Who** can use the LISS panel: every researcher who wants to collect data for scientific, policy or societal relevant research

**Scientific research:**
Academic researchers, irrespective of nationality, can use the LISS panel **at no cost**

- Proposals can be submitted throughout the year
Use of a subsample

- Effects of illness babies in first year on labour participation parents:
  - Pregnant women, follow 3 years!

- Effects of the economic crisis on household portfolio choice:
  - Panel members who own stocks

- Random subsample or experimental groups: different conditions
Proposals: Summary (April 2013)

| Decision Board of Overseers | Count |
|-----------------------------|-------|
| Undecided (in review or revision) | 24    |
| Accepted                    | 121   |
| Rejected                    | 25    |
| Total                       | 170   |
Overview of affiliations

The Netherlands
- Eindhoven University of Technology
- Erasmus MC, Rotterdam
- Erasmus University Rotterdam
- Free University, Amsterdam
- Groningen University
- Leiden University
- Maastricht University
- Open Universiteit
- Radboud University Nijmegen
- Tilburg University
- University Medical Center Utrecht
- University of Amsterdam
- University of Twente
- Utrecht University
- VU University MC
- Wageningen University
- ACCR (Free University Amsterdam)
- ASCoR (University of Amsterdam)
- Dutch Central Bank
- Netherlands Bureau for Economic Policy Analysis (CPB)
- Netherlands Institute for Social Research (SCP)
- Netherlands Institute for the Study of Crime and Law Enforcement
- Netherlands Interdisciplinary Demographic Institute (NIDI)
- Netherlands Organization for Applied Scientific Research (TNO)
- NHTV Breda University of Applied Sciences
- Rutgers Nisso Groep
- Statistics Netherlands
- Tranzo

Australia
- Arizona State University
- Bar-Ilan University
- Carnegie Mellon University
- Connecticut College
- Duke University
- Emory University
- Federal Reserve Bank of New York
- Griffith University
- Harvard University
- Hebrew University of Jerusalem
- Laval University
- Michigan State University
- Michigan Technological University
- Neuroscience Research Australia
- New York University
- Northeastern University
- Pew Research Center
- Saint Leo University
- Stanford University
- Stony Brook University
- Swinburne University of Technology
- Tel Aviv University
- Université du Québec à Montréal
- University of Calgary
- University of California
- University of Florida
- University of Maryland
- University of Michigan
- University of Waterloo
- University of Wellington
- Washington State University
- World Values Survey Association

Canada
- AC

Israel
- University of Lausanne
- University of Limerick
- University of Louvain
- University of Mannheim
- University of Padua
- University of Southampton
- University of Southern Denmark
- University of Stirling
- University of Vienna
- University of Zurich
- Universitat Pompeu Fabra

New Zealand
- Europe
2. Use of existing data

- **Who** can use the LISS data: every researcher who wants to use data for scientific, policy or societal relevant research

- Use of data is free of charge (unless data are used for research funded by means of external sources)

- Available data:
  - longitudinal core study
  - proposed studies
Longitudinal core study

Questions were designed in close collaboration with experts in the relevant fields.

Core study borrows from various national and international surveys.

Topics: Household and family, Economic situation and housing, Work and schooling, Social integration and leisure, Health, Personality, Religion and ethnicity, Politics and values.

LISS wave 6: Nov 2012 to June 2013
LISS data

- Disseminated through website / data archive: [http://www.lissdata.nl](http://www.lissdata.nl)

- Database is based on an internationally used specification for describing social science data (DDI 3)

- Recent new feature: shopping cart

- Exchangeable with data archives; source code of data dissemination system available free of charge
LISS data

- Demo...

http://www.lissdata.nl
Innovation in data collection

- **Smartphones** (Time Use, with the Netherlands Institute for Social Research; Mobility, with Twente University)

- **Accelerometers** (international collaboration)

- **Internet weighing scales**
Time use diary app

- Developed by CentERdata
- Can be used any time
- Notifications (reminders)
- Closed answers: codes for activities
- Experience sampling: 3 popup questions on feelings, random moments

Design study:

- 12 months data collection
- 170 panel members per month, 2000 total
- Panel member completes two days

**200 loan smartphones, lend for 7 days**
Mobility App

- Developed by Novay (The Netherlands)
- Uses GPS and Mobile Networks
- Algorithm: distance, mode (speed), time
- Web interface: respondents check and adapt
- Privacy issue: Consent procedure

Design study

- 3 waves spread over 3 years
- 500 panel members per wave
- 4 - 6 weeks measurement per wave
- **200 loan smartphones, lend for 4 weeks**
Accelerometer study

- Developed by Geneactiv (UK)
- Measures acceleration, body temperature, day light

Design study:

- 13 weeks data collection
- 70 - 90 panel members per week, 1000 in total
- Panel member wears 8 days
- **300 accelerometers, lend for 8 days**
Weighing scale study

- Wireless weighing scales
- Uses radio signals through “bridge” and Internet, to send the data
- Measures weight and body fat
- Variability over time: more accurate and more frequent

Design study:

- Longitudinal study, currently 2.5 years
- 950 scales, recently 300 new scales added
- *Lend to household for at least 1 year*
International collaboration

Institutes in other countries will have an innovative role model to follow

ELIPSS (Étude Longitudinal par Internet Pour les Sciences Sociales), Science Po, Paris

GIP (German Internet Panel), Mannheim University

GESIS Omnibus Panel, Mannheim

This may lead to a wealth of international comparisons and new global data networks
In its first phase, MESS has generated a clear return on investment

- An ultra-modern, efficient research infrastructure is now solidly in place
- The LISS panel has collected five years of rich and innovative data, using state-of-the-art methods
- Researchers worldwide have accessed this data for use in scientific, policy, and societal studies
- An innovative data archive is now easily available through a web tool on a dedicated LISS website
www.lissdata.nl