# Survey Experience and its Impact on Response Behavior in Panel Surveys: Evidence from the GESIS Panel Data

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# Outline

- Introduction
- Research Hypothesis
- Data and Method
- Findings
- Discussion

# Introduction

- Aim of the study: to explore how repeated participation in a panel influences response behavior.
- Panel surveys: important for social science research (Firebaugh, 2008; Andreß, Golsch, & Schmidt, 2013).
- Main challenge: panel conditioning effect (Lynn, 2009).
- Learning effects: A repeatedly performing task could increase the ability of the individuals to complete the task (Wright, 1936; Yelle, 1979).
  - when survey experience increases, the difficulty of a task is reduced, and respondents will need less time to answer.

# Research Hypothesis

- **H1: The more frequently respondents answer the same questions, the faster they become in completing the response tasks**.
- However, the repetitive participation in a survey (survey fatigue) may increase respondents' burden.
  - Fast responses could also indicate lower response quality
    - Satisficing response behavior (i.e. Greszki et al. 2014; Roßmann et al. 2018)
    - Speeding (Zhang and Conrad 2014)
    - Straight-lining (Schonlau and Toepoel 2015)
- **H2: Panelists become faster across panel waves (H1) even when controlling for negative learning effects (i.e., speeding, straight-lining, left-alignment, mid-point selection, and item nonresponse).**

# Data And Method

- Data: GESIS Panel Survey (4 years)
  - Completed 24 waves
  - Online participation only
- Survey evaluation questions
  - Grid question (6 items)
  - Single choice questions (3 items)
  - Open-ended questions (4 pages)

# Model: Fixed effects panel regression

- Test the impact of panel experience (i.e. number of waves a respondent participated in) on response time.
  - DV: Response time
  - IV: Wave and data quality indicators
  - CV: Participation device and number of questionnaire pages

# Response time

- Measuring response time for all the survey evaluation questions/pages together, except for open ended questions.
- Excluding outliers, which are outside the 1.5 times interquartile distance (more than 157 seconds)

# Data quality indicators

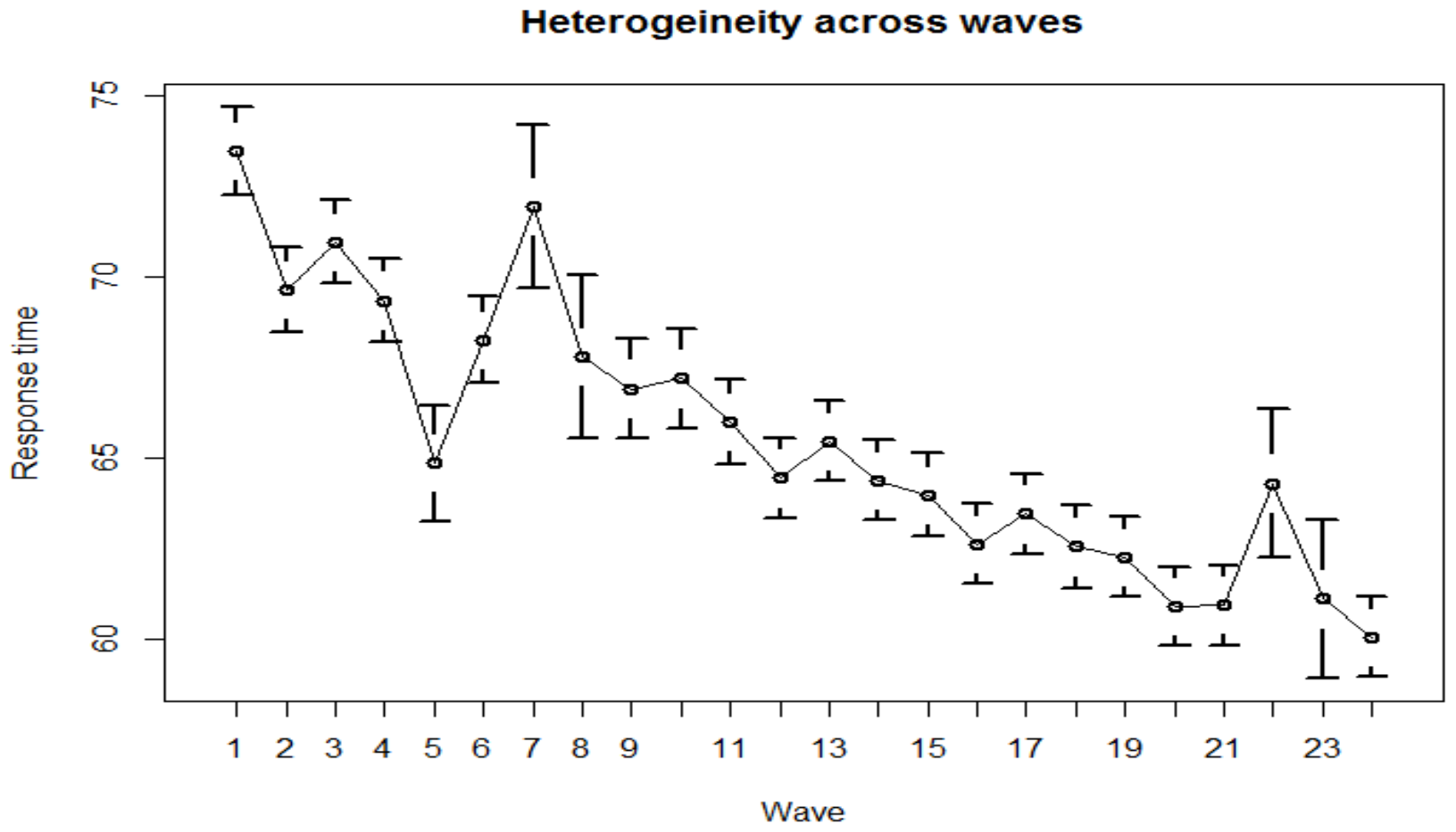
| *Response Quality Indicators* | *Procedures and formulas* | *Question items* | *Range* |
|---|---|---|---|
| Speeding | If (Response time < Scanning threshold)<br>Min times of speeding=2 pages | attitudinal questions (grid and single-choice) | 0-1 |
| Straight-lining | If (Number of the same response == Number of valid answers)<br>Min Number of valid answers=2 | Grid question | 0-1 |
| Left-aligned responses | Number of the first responses /Number of valid answers (Excluding missing) | Likert-type scale items (grid and single-choice) | 0-1 |
| Mid-point responses | Number of mid-point answers/Number of valid answers (Excluding missing) | Likert-type scale items (grid and single-choice) | 0-1 |
| Item Nonresponse | Number of missing items/Total number of items | Grid and single-choice questions | 0-1 |

# Control variables

- Participation device
- Number of questionnaire pages

# Findings

# Average response time of respondents across waves



# Panel Regression Analysis

| Model | Variable | Fixed effects: Regression-coefficient |
|---|---|---|
| Without control variables | Wave | -,500 *** |
| With control variables and all data quality indicators | Wave | -0.481 *** |
| | Device - Tablet-PC | 5.360 *** |
| | Device - Smartphone | 17.139 *** |
| | Page number | 0.014 *** |
| | Speeding | -12.127 *** |
| | Straighlining | -5.884 *** |
| | Left-aligned | -10.538 *** |
| | Mid-point | 4.238 *** |
| | Item-nonresponse | -7.562 ** |

# Interaction Effects between Wave and Data Quality Indicators

| Wave Interaction: | |
|---|---|
| Speeding | 0.419 *** |
| Straight-lining | 0.059 |
| Left-aligned | 0.086 |
| Mid-point | -0.132 * |
| Item-nonresponse | -1.122 ** |

- Significant interaction effect for wave and speeding.
- Negative interaction between wave and mid-point and item-nonresponse.
- No significant interaction effect for wave and the other data quality indicators (straight-lining and left-aligned).

# Discussion

- Significant impact of survey experience on response time (H1).
  - The more frequent respondents participate in the panel, the faster they become.
- Slightly less, when we include control variables and all the data quality indicators (H2)
  - Parts of the response times are explained by effects of panel fatigue:
    - Respondents answer faster if they speed, straightline, select left-aligned answers or skip a questionnaire item.
    - However, only the frequency of speeding increases significantly with more frequent panel participation.
- Positive (faster responding) as well as negative learning effects (increase in speeding) appear when survey experience increases.

# Thank you for your attention!
# Feedback? Questions?