Pre-analysis plan: Cooperation in online lab and real-life outcomes

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1. Research question

This study examines whether cooperation measured in an economic experiment is associated with real-life behavior outside the experimental setting, as measured by administrative register data.

2. Pre-specification status

The experimental data were collected prior to this registration as part of the iLEE1 study (May 2008). The linkage to administrative register data was performed via Statistics Denmark. No descriptive statistics or correlations between experimental cooperation measures and register outcomes have been examined prior to this pre-analysis plan.

3. Data sources

3.1 Experimental data

The experimental sample consists of 2,291 Danish adults who completed an online experiment that included a public goods game, incentivized preference tasks, survey measures, and cognitive and personality tests. 2/3 saw a 'give' framing of the public good game, while 1/3 saw a 'take' framing of the public good game.

Primary experimental measures (cooperation):

1. Unconditional contribution in a public good game
2. Beliefs about others' contributions
3. Conditional cooperation preferences (strategy method)
4. Comprehension of the public good game

Experimental control variables:
Risk and loss preferences, personality traits (Big Five), cognitive abilities, survey answers, and framing of the public good game.

3.2 Register data

Participants are linked via anonymized identifiers to administrative registers from Statistics Denmark.

Primary outcome families:

1. **Private and family life:** marital/partnership status, number of children, household composition, and local social context.
2. **Career and labor market:** education, occupation, sector, and employment history.
3. **Economic resources:** income, assets, tax information, vehicle ownership, and wealth measures.
4. **Health** (pandemic-related)**:** COVID-19 testing and vaccination records.
5. **Norm compliance:** Criminal records.

Register-based control variables:
Demographics (age, gender), citizenship, and related background characteristics.

4. Hypotheses

The hypotheses are motivated by game theory, models of repeated cooperation (Fudenberg and Tirole, 1991), and sorting mechanisms (e.g., Roy, 1951). They concern associations rather than causal effects of cooperation.

- **Family life:** Cooperative preferences are expected to be positively associated with outcomes related to family formation and stability.
- **Career and labor market:** Cooperation is expected to be associated with education and occupational choices.
- **Economic resources:** Cooperation is expected to be positively associated with income and wealth outcomes.
- **Health:** Cooperation is expected to be positively associated with engagement in COVID testing and vaccination, as they involve contributions to public health.
- **Norm compliance:** Cooperation is expected to be negatively associated with crime.

5. Analysis plan

We will estimate regressions relating experimental cooperation measures to register-based outcomes.

- The individual participant is the unit of analysis.
- Each cooperation measure will be analyzed separately and jointly.
- Analyses will be conducted within each of the five pre-specified outcome families.

- Within each outcome family, we will either (i) analyze pre-defined key outcomes individually, or (ii) construct a standardized index following Kling, Liebman, and Katz (2007).
- Models will be estimated with and without experimental and register-based control variables.
- Inference will focus on family-level results, using joint tests or standardized indices to address multiple outcomes within families.
- Primary conclusions will be drawn at the outcome-family level rather than from individual coefficients, thus no formal correction for multiple testing is applied across the five primary families, but all results will be reported transparently.
- The baseline function form will be linear, but as a robustness check, we will try alternative functional forms (e.g. log or binary outcomes).
- We will account for data gaps resulting from individuals who have passed away or migrated out of the country.

6. Secondary and exploratory analyses

In secondary analyses, we will examine specific outcomes closely related to pro-social behavior, including:

- Electric vehicle ownership.
- Registered charitable donations.

The impact of give/take framing will also be explored.

These analyses are not used to evaluate the primary hypotheses and will be clearly labeled as exploratory.

7. References

Fudenberg, Drew, and Jean Tirole (1991). *Game Theory.* Cambridge, MA: MIT Press.

Kling, Jeffrey R., Jeffrey B. Liebman, and Lawrence F. Katz (2007). "Experimental Analysis of Neighborhood Effects." *Econometrica* 75(1): 83–119

Roy, A. D. (1951). "Some Thoughts on the Distribution of Earnings". *Oxford Economic Papers* 3.2, pp. 135–146.