

# Replication package for: "Interventions and Cognitive Spillovers"

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## Overview

This is the replication package for Altmann, Grunewald, and Radbruch (2021) "Interventions and Cognitive Spillovers", *Review of Economic Studies*.

The package includes the [oTree](#) code for running the laboratory experiment.

It also includes the [Stata](#) code of all hypothesis tests and statistics reported in the article (figures, tables, numbers reported in the text) as well as the data on which the code runs. A master.do file runs all do files which generate the figures and tables.

## Data Availability and Provenance Statements

### Summary of availability

All data analyzed in the manuscript are publicly available and included in this replication package.

### License for data

The data are licensed under a [Creative Commons Attribution–NonCommercial 4.0 International \(CC BY-NC 4.0\)](#) license.

### Details on each data source

- The experimental data used to support the findings of this study are included in this replication package. The data were collected by the authors and are available under a [Creative Commons Attribution–NonCommercial 4.0 International \(CC BY-NC 4.0\)](#) license.
- The data for the laboratory experiment are contained in the file `EmpiricalAnalysis/original_data/formatted_data_replication.dta`.
- The data for the online experiment are contained in the file `EmpiricalAnalysis/original_data/formatted_data_long_mturk.dta`.

## Dataset list

Data file	Source	License	Provided
<code>EmpiricalAnalysis/original_data/formatted_data_replication.dta</code>	Collected by the authors	<a href="#">CC BY-NC 4.0</a>	Yes
<code>EmpiricalAnalysis/original_data/formatted_data_long_mturk.dta</code>	Collected by the authors	<a href="#">CC BY-NC 4.0</a>	Yes

## Computational requirements

### Software Requirements

- Stata (code was last run with version 15)
  - all additional (user-written) commands--- such as `estout`--- are provided in the library. The "`master.do`" sets the appropriate path accordingly.

- **oTree**

- The code was optimized for oTree 3.3.11 in combination with Python 3.7.4.
- The laboratory experiment was conducted using Google Chrome in kiosk mode in Full HD (1920 × 1080 pixels).
- oTree is available free of charge (<https://www.otree.org>).

## Memory and Runtime Requirements

### Summary

Approximate time needed to reproduce the analyses on a standard 2021 desktop machine: <10 minutes

### Details

The code was last run on a **M1-based laptop with MacOS version 11.3.1**.

## Description of programs/code

### Stata and Empirical Analysis of the Experiment

- Do-files in **EmpiricalAnalysis/dofiles** generate all tables and figures in the main body of the article. The do-file **EmpiricalAnalysis/master.do** will run them all. Each do-file called from **master.do** identifies the subsection to which the tables or figures belong that are created (e.g., **4\_1\_Attention\_Allocation.do**). Output files are named after their appearances in the manuscript (**table5.tex**, **figure12.tif**) and thus should be easy to correlate with the manuscript.
- The do-files also generate the tables and figures in the (online) appendix. More specifically, they will be generated when referenced in the manuscript (e.g., if referenced in section 4.1, the table is also created in the do file `41...')
- Stata Packages are provided in **EmpiricalAnalysis/library** and the **master.do** file sets the Path appropriately.

### oTree

- The experiment was conducted using **Google Chrome** in kiosk mode in Full HD (1920 × 1080 pixels).
- The code was optimized for oTree 3.3.11 in combination with Python 3.7.4.

## Instructions to Replicators

### Instructions for running the experiment

- Install oTree (in the "models.py format" such as version 3.3.11) as described on <https://otree.readthedocs.io/en/self/install.html>.
- Run **otree devserver** in the **oTree** directory.

### Instructions for replicating tables, figures and numbers from the manuscript

- Edit the first line of **EmpiricalAnalysis/master.do** to adjust the project path. The path should point to the parent directory "Replication Package" on your machine.
- Run **EmpiricalAnalysis/master.do** to run all do files in sequence, which will generate all tables and figures in `/out' and log files which contain the according numbers.

List of tables and programs -----\*\*\*\*

The provided code reproduces:

- all numbers provided in the paper and in the Online Appendix, and

- all tables and figures in the paper and in the Online Appendix.

## Tables and figures in the manuscript

Figure/Table #	Program	Output file	Note
Table 1	N/A	N/A	Overview of the experimental design
Table 2	4_2_Interventions_targeted_domain.do	out/table2.tex	Behavior in the Targeted Choice Domain
Table 3	4_2_Cognitive_Spillover.do	out/table3.tex	Cognitive Spillovers
Table 4	4_3_Payoffs_And_Efficiency.do	out/table4.tex	Effect of Interventions on Overall Payoffs
Table 5	4_3_Payoffs_And_Efficiency.do	out/4_3_Payoffs_And_Efficiency.log	Hypothetical Payoffs Across Incentive Conditions
Figure 1	N/A	N/A	Screenshot Decision Task
Figure 2	4_1_Attention_Allocation.do	out/figure2.tif	Attention Spans in Baseline
Figure 3	4_1_Passive_Behavior.do	out/figure3a.tif, out/figure3b.tif	Passive Behavior in Baseline
Figure 4	4_2_Cognitive_Spillover.do	out/figure4.tif	Heterogeneity of Cognitive Spillovers: Raven Score
Figure 5	4_2_Cognitive_Spillover.do	out/figure5.tif	Heterogeneity of Cognitive Spillovers: Task Difficulty
Figure 6	4_2_Cognitive_Spillover.do	out/figure6.tif	Heterogeneity of Cognitive Spillovers: Relative Incentives
Figure 7	4_3_Payoffs_And_Efficiency.do	out/figure7.tif	Heterogeneity of Payoff Effects: Raven Score

## Tables and figures in the Appendix

Figure/Table #	Program	Output file	Note
Figure B.1	4_1_Attention_Allocation.do	out/figureB_1a.tif, out/figureB_1b.tif	Heterogeneity in Attention Allocation
Table B.1	4_1_Attention_Allocation.do	out/tableB_1.tex	Attention and Choice Quality in Baseline
Table B.2	4_1_Passive_Behavior.do	out/tableB_2.tex	Default Adherence in Baseline

### Tables and figures in the Supplementary Material

Figure/Table #	Program	Output file	Note
Figure O.1	4_1_Attention_Allocation	out/figureO_1	Attention Spans in Baseline
Figure O.2	4_3_Payoffs_And_Efficiency.do	out/figureO_2	Effect of Interventions on Overall Payoffs: Heterogeneity by Raven Score
Figure O.3	4_2_Cognitive_Spillover.do	out/figureO_3	Attention Spans in the Online Experiment
Figure O.4	N/A	N/A	Screenshots
Figure O.5	N/A	N/A	Screenshots
Table O.1	Supplementary_Material_Randomization_Check_Table.do	out/tableO_1	Descriptives
Table O.2	4_2_Interventions_targeted_domain.do	out/tableO_2	Behavior in the Targeted Domain: Heterogeneity by Relative Incentives
Table O.3	4_2_Interventions_targeted_domain.do	out/tableO_3	Behavior in the Targeted Domain: Heterogeneity by Raven Scores
Table O.4	4_2_Cognitive_Spillover.do	out/tableO_4	Heterogeneity of Cognitive Spillovers: Raven Score
Table O.5	4_2_Cognitive_Spillover.do	out/tableO_5	Heterogeneity of Cognitive Spillovers: Task Difficulty
Table O.6	4_2_Cognitive_Spillover.do	out/tableO_6	Heterogeneity of Cognitive Spillovers: Relative Incentives
Table O.7	4_2_Interventions_targeted_domain.do	out/tableO_7	Treatment Effects in the Ample Environment

Figure/Table #	Program	Output file	Note
Table O.8	4_3_Payoffs_And_Efficiency.do	out/tableO_8	Effect of Interventions on Overall Payoffs: Heterogeneity by Relative Incentives
Table O.9	4_3_Payoffs_And_Efficiency.do	out/tableO_9	Effect of Interventions on Overall Payoffs: Heterogeneity by Raven Score
Table O.10	4_2_Cognitive_Spillover.do	out/tableO_10	Results of the Online Experiment