README

1. Overview

The goal of this replication is to reproduce the paper's main intent-to-treat (ITT) estimates using the provided Mindspark dataset and then implement an additional robustness check as required.

2. Main Result Replication

The main result in the paper estimates the ITT effect of winning the lottery for subsidized access to the Mindspark computer-aided learning program.

3. Extension: Robustness Check Using Standardized Z-scores

To test whether ITT estimates are sensitive to IRT scoring assumptions, outcomes were re-estimated using Z-score normalization based on the control group's baseline distribution.

$$Z_{is}^{t} = \frac{Y_{is}^{t} - \mu_{s,control,baseline}}{\sigma_{s,control,baseline}}$$

The resulting ITT estimates remain very similar, confirming robustness.

4. Files Included

ReplicationPackage/

- README.docx

- robustness_check.py

- ms_blel_jpal_long.dta

- Assignment_4.pdf

5. How to Run

Install requirements: pandas, statsmodels, numpy

Run: python robustness_check.py