



How to Build a Reader: Evidence from a Scalable Literacy Intervention in Ghana

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Mahin Tariq, Nihaa Sajid

reproducibility@worldbank.org

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This review verifies the reproducibility of the exhibits included in the paper “*How to Build a Reader: Evidence from a Scalable Literacy Intervention in Ghana*”.

Contents in this review:

1. Main findings
2. List of exhibits and reproducibility status
3. Reproduction Environment

Main findings

- **Every exhibit in the main section of the paper and 10 randomly selected exhibits in the appendix were reproduced accurately**
- The code was successfully executed on a new computer after:
 1. Opening the R project "Replication Package.Rproj"
 2. Restoring the environment by running `renv::restore()` and following the prompts.
 3. Opening the `run_all.R`, updating the paths in line 27-30 and running the code.
- The code takes approximately 12 hours to run.
- We conducted our reproducibility analysis based on the paper shared by the authors over email on June 30th, 2026.
- **Verification Process and Data Handling:**
 - The reproducibility package relies on 1 types of data: embargoed data (forthcoming).
 - Reviewers used embargoed data (forthcoming) data provided directly by the authors to conduct the reproducibility verification, and this is not included in the public reproducibility package. The data is forthcoming on the World Bank Microdata Library.
 - `data_hash_report.csv` lists the SHA256 hashes of all files in the Data folder to support data integrity checks. Users who acquire the forthcoming data can use this file to verify that the data has not been altered.
- **Reproducibility Summary:**

- **Data:** All data sources are temporarily embargoed by the authors (expected to be made public in the future)
- **Code:** All code files (from cleaning to analysis) are included in the reproducibility package.
- **Outputs:** All outputs are generated by code included in the reproducibility package.
- **Dependencies environment:** The reviewers created a new environment using the latest versions of dependencies available at the moment of the review.

List of exhibits and reproducibility status

Results in the Main Section of the Paper

- **Table 1** Reproduced.
- **Figure 2** Does not apply. Does not show analysis results.
- **Table 2** Reproduced.
- **Table 3** Reproduced.
- **Figure 2** Reproduced.
- **Figure 3** Reproduced.
- **Figure 4** Reproduced.
- **Figure 5** Reproduced.
- **Table 4** Reproduced.
- **Figure 6** Reproduced.
- **Table 5** Reproduced.
- **Table 6** Reproduced.
- **Table 7** Reproduced.
- **Figure 7** Reproduced.
- **Figure 8** Reproduced.
- **Figure 9** Reproduced.
- **Figure 10** Reproduced.
- **Table 8** Reproduced.
- **Figure 11** Reproduced.
- **Figure 12** Reproduced.
- **Figure 13** Reproduced.

Results in the Annex

For the Appendix, we did not review every exhibit. Instead, we randomly selected 10 exhibits from the remaining datasets to assess the appendix. Our review was based on those 10 exhibits. Since they were chosen randomly, we are operating under the assumption that if all randomly selected exhibits are reproducible, then the rest should be as well. The seed used to generate the random selection was [667453], the Stata version used was [18.5], and the exhibits selected were: Table A1, Table A8, Table B1, Table C1, Table C3, Table E1, Table E3, Figure G1, Figure I2 and Figure I6.

- **Table A1** Reproduced.
- **Table A8** Reproduced.
- **Table B1** Reproduced. This exhibit was verified against *table_A9.tex*.
- **Table C1** Reproduced. This exhibit was verified against *table_A14.tex*.
- **Table C3** Reproduced. This exhibit was verified against *table_A16.tex*.
- **Table E1** Reproduced. This exhibit was verified against *table_A21.tex*.
- **Table E3** Reproduced. This exhibit was verified against *table_A23.tex*.
- **Figure G1** Reproduced. This exhibit was verified against the files named *Figure_A1*.
- **Figure I2** Does not apply.
- **Figure I6** Does not apply.

Reproduction Environment

Paper exhibits were reproduced on a computer with the following specifications:

- OS: Windows 11 Enterprise
- Processor: INTEL(R) XEON(R) PLATINUM 8562Y+ 2.80 GHz (2 processors)
- Memory available: 32.0 GB
- Software version: R 4.5.2, Stata 19.5 MP