



Pathways to Prosperity for Adolescent Girls in Africa

Fourth Submission: FR_AFR_2024_224

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This review verifies the reproducibility of the exhibits included in the book “*Pathways to Prosperity for Adolescent Girls in Africa*”.

Contents in this review:

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

Main findings

- The code was successfully executed on a new computer after:
 1. Adding the global path in the do-files *Introduction/FigureI.1.do*, *Chapter 2/Replication Chapter 2/Macros.do*, and *Spotlight 2/main.do*
 2. Adding the main path in the R scripts *Bubble Graph.R*, *Mics_visualization.R*, and *Old_new_transition_graph.R* of the folder *Chapter 2/Replication Chapter 2/Code/Graph Creation*.
- The exhibits *Map 2.1 a*, *Map 2.1 b*, and *Map 2.1 c* were reproduced in QGIS with code results. The steps followed for the reproduction are outlined in the items for these exhibits in section List of exhibits and reproducibility status.
- The output demonstrates consistent stability across multiple runs. Specifically, executing the code two consecutive times yielded identical results.
- The code takes approximately 40 minutes to run.
- We conducted our reproducibility analysis based on the book shared by the authors via OneDrive on November 15, 2024.
- The results of all exhibits were reproduced. Some exhibits display manual aesthetic changes or use results from multiple code outputs. These cases are denoted in lime green in the section List of exhibits and reproducibility status.
- **Reproducibility Summary:**
 - **Data:** Some data is not yet publicly available but is expected to be made available through the World Bank Microdata Library in the future.
 - **Code:** All code files (from cleaning to analysis) are included in the reproducibility package.

- **Outputs:** Some outputs are not generated by code and are created manually QGIS, but instructions for producing these outputs are included in the README file.
- **Reproducibility verification:** Reviewers used data provided directly by the authors to conduct the reproducibility verification, and this is not included in the public reproducibility package. The reviewers did not verify if publicly available data matches the data provided by the authors.
- **Dependencies environment:** The reviewers created a new environment for dependencies using the latest versions available for each dependency at the moment of the review.

List of exhibits and reproducibility status

Results in the Executive Summary

- **Figure ES.1 a** Reproduced. The exhibit was compared against *pooled_adol.jpg* and numbers of the table below the plot were compared against *women_groups_adol.dta*.
- **Figure ES.1 b** Reproduced. The exhibit was compared against *pooled_adol_men.jpg* and the numbers of the table below the plot were compared against *men_pooled.dta*.
- **Figure ES.1 c** Reproduced. The exhibit was compared against *pooled_young.jpg* and the numbers of the table below the plot were compared against *women_groups_young.dta*.
- **Figure ES.1 d** Reproduced. The exhibit was compared against *pooled_young_men.jpg* and the numbers of the table below the plot were compared against *men_pooled_young.dta*.
- **Table ES.1** Does not apply: the exhibit does not show data analysis results.
- **Figure ES.2** Does not apply: the exhibit does not show data analysis results.
- **Figure ES.3** Does not apply: the exhibit does not show data analysis results.
- **Figure ES.4** Reproduced. The exhibit was compared against *pooled_adol.jpg* and the numbers of the table below the plot were compared against *women_groups_adol.dta*.
- **Figure ES.5** Reproduced. The exhibit was compared against *bubble_graph.jpg*.
- **Table ES.2** Does not apply: the exhibit does not show data analysis results.
- **Table ES.3** Does not apply: the exhibit does not show data analysis results.
- **Table BES.3.1** Does not apply: the exhibit does not show data analysis results.

Results in the Introduction

- **Figure I.1** Results reproduced. The exhibit was compared against *Figure I.1.png* The line *Africa percentage* was not produced in the output. It was compared against the variable *share_ssa* in the Stata dataset produced by *FigureI.1.do*
- **Table IA.1** Does not apply: the exhibit shows results from another study.

- **Figure IA.1** Does not apply: the exhibit shows results from another study.
- **Figure IA.2** Does not apply: the exhibit shows results from another study.
- **Table IA.2** Does not apply: the exhibit shows results from another study.
- **Figure IA.3** Does not apply: the exhibit shows results from another study.

Results in Chapter 1

- **Table 1.1** Does not apply: the exhibit does not show data analysis results.
- **Figure 1.1** Does not apply: the exhibit does not show data analysis results.
- **Table 1.2** Does not apply: the exhibit does not show data analysis results.
- **Figure 1.2** Does not apply: the exhibit does not show data analysis results.
- **Figure 1.3** Does not apply: the exhibit does not show data analysis results.
- **Figure 1.4** Does not apply: the exhibit does not show data analysis results.
- **Figure 1.5** Does not apply: the exhibit does not show data analysis results.
- **Figure 1.6** Does not apply: the exhibit does not show data analysis results.
- **Figure 1.7** Does not apply: the exhibit does not show data analysis results.
- **Figure S1.1** Does not apply: the exhibit does not show data analysis results.
- **Table S1.1** Does not apply: the exhibit does not show data analysis results.
- **Table S1A.1** Does not apply: the exhibit does not show data analysis results.

Results in Chapter 2

- **Figure 2.1** Results reproduced. The exhibit was compared against *pooled_adol.jpg*. The numbers of the table below the plot were not exported in the output, they were compared against *women_groups_adol.dta*.
- **Figure 2.2 a** Results reproduced. The exhibit was compared against *schooling.jpg*.
- **Figure 2.2 b** Results reproduced. The exhibit was compared against *housework.jpg*.
- **Figure 2.2 c** Results reproduced. The exhibit was compared against *labour.jpg*.
- **Figure 2.3 a** Results reproduced. The exhibit was compared against *pooled_adol.jpg*. The numbers of the table below the plot were not exported in the output, they were compared against *women_groups_adol.dta*.
- **Figure 2.3 b** Results reproduced. The exhibit was compared against *pooled_adol_men.jpg*. The numbers of the table below the plot were not exported in the output, they were compared against *men_pooled.dta*.

- **Figure 2.3 c** Results reproduced. The exhibit was compared against *pooled_young.jpg*. The numbers of the table below the plot were not exported in the output, they were compared against *women_groups_young.dta*.
- **Figure 2.3 d** Results reproduced. The exhibit was compared against *pooled_young_men.jpg*. The numbers of the table below the plot were not exported in the output, they were compared against *men_pooled_young.dta*.
- **Figure 2.4 a** Reproduced. The exhibit was compared against *sch_inc1.jpg*.
- **Figure 2.4 b** Reproduced. The exhibit was compared against *sch_inc2.jpg*.
- **Figure 2.4 c** Reproduced. The exhibit was compared against *sch_inc3.jpg*.
- **Map B2.1.1** Does not apply: the exhibit shows results from another study.
- **Figure B2.1.1** Does not apply: the exhibit shows results from another study.
- **Figure 2.5 a** Reproduced. The exhibit was compared against *mar_inc1.jpg*.
- **Figure 2.5 b** Reproduced. The exhibit was compared against *mar_inc2.jpg*.
- **Figure 2.5 c** Reproduced. The exhibit was compared against *mar_inc3.jpg*.
- **Figure 2.6** Reproduced. The exhibit was compared against *bubble_graph.jpg*.
- **Table 2.1** Does not apply: the exhibit does not show data analysis results.
- **Figure 2.7** Reproduced. The exhibit was compared against *countywise_groups.jpg*.
- **Figure 2.8** Reproduced. The exhibit was compared against *country_laws.jpg*.
- **Figure 2.9** Results reproduced. The exhibit was compared against *fig2.9.jpg*. The numbers in the figure were not produced in the output. They were compared against the variable *n* in the dataframe *data6* produced by *Old_new_transition_graph.R*.
- **Figure B2.2.1 a** Results reproduced. The exhibit was compared against *pooled_FCV.jpg*. The numbers of the table below the plot were not exported in the output, they were compared against *women_groups_comb_FCV.dta*.
- **Figure B2.2.1 b** Results reproduced. The exhibit was compared against *pooled_nonFCV.jpg*. The numbers of the table below the plot were not exported in the output, they were compared against *women_groups_comp_nonFCV.dta*.
- **Figure B2.2.2** Reproduced. The exhibit was compared against *FCV_index.jpg*.
- **Figure B2.2.3 a** Results reproduced. The exhibit was compared against *pooled_linc.jpg*. The numbers of the table below the plot were not exported in the output, they were compared against *women_groups_comp_linc.dta*.
- **Figure B2.2.3 b** Results reproduced. The exhibit was compared against *pooled_midinc.jpg*. The numbers of the table below the plot were not exported in the output, they were compared against *women_groups_comp_midinc.dta*.

- **Figure B2.2.3 c** Results reproduced. The exhibit was compared against *pooled_highinc.jpg*. The numbers of the table below the plot were not exported in the output, they were compared against *women_groups_comp_highinc.dta*.
- **Map 2.1 a** Results were reproduced manually in QGIS using the shapefile *admins2_dhs.shp* and the variable *an_sch* from *10-14_school.dta*. The attribute test and the variable *merge_var* were used as key variables to join the attributes with the Stata file.
- **Map 2.1 b** Results were reproduced manually in QGIS using the shapefile *admins2_dhs.shp* and the variable *isnwt_ncnm* from *maps_data.dta*. The attribute test and the variable *merge_var* were used as key variables to join the attributes with the Stata file.
- **Map 2.1 c** Results were reproduced in QGIS using the shapefile *admins2_dhs.shp* and the variable *niswt_cm* from *maps_data.dta*. The attribute test and the variable *merge_var* were used as key variables to join the attributes with the Stata file.
- **Figure B2.3.1 a** Results reproduced. The exhibit was compared against *pooled_poor.jpg*. The numbers of the table below the plot were not exported in the output, they were compared against *women_groups_poor.dta*.
- **Figure B2.3.1 b** Results reproduced. The exhibit was compared against *pooled_rich.jpg*. The numbers of the table below the plot were not exported in the output, they were compared against *women_groups_rich.dta*.
- **Figure B2.3.2** Reproduced. The exhibit was compared against *income_findex.jpg*.
- **Figure B2.3.3 a** Results reproduced. The exhibit was compared against *pooled_rural.jpg*. The numbers of the table below the plot were not exported in the output, they were compared against *women_groups_rural.dta*.
- **Figure B2.3.3 b** Results reproduced. The exhibit was compared against *pooled_urban.jpg*. The numbers of the table below the plot were not exported in the output, they were compared against *women_groups_urban.dta*.
- **Table 2A.1** Does not apply: the exhibit does not show data analysis results.
- **Table 2A.2** Does not apply: the exhibit does not show data analysis results.
- **Figure 2A.1 a** Reproduced. The exhibit was compared against *countywise_groups_appexdix_a.jpg*.
- **Figure 2A.1 b** Reproduced. The exhibit was compared against *countywise_groups_appexdix_b.jpg*.
- **Figure 2A.1 c** Reproduced. The exhibit was compared against *countywise_groups_appexdix_c.jpg*.
- **Figure 2A.1 d** Reproduced. The exhibit was compared against *countywise_groups_appexdix_d.jpg*.
- **Table S2.1** Results reproduced with small differences for some indicators shown below. The exhibit was compared against the results produced by *2_TableS2.1.do* and saved in *log.txt*.
- **Table S2.2** Reproduced. The exhibits was compared against *TableS2.2.doc*

Row	Column	Book exhibit	Code result
Never enrolled in school	Weighted Pool Average	30%	31%
Marriage age aspiration (if not married)	Weighted Pool Average	21.7	21.8
Rural	SWEDD Mauritania	44%	45%
Self-efficacy (0-1)	SWEDD Mauritania	0.76	0.77
Locus of control (0-1)	SWEDD Safe Spaces Benin	0.60	0.59

- **Figure S2.1** Results reproduced. The exhibit was compared against the results produced by *4_FigureS2.1.do* and saved in *log.txt*.
- **Figure S2.2** Results reproduced. The exhibit was compared against the results produced by *5_FigureS2.2.do* and displayed at the end of the do-file.
- **Table S2A.1** Results reproduced. The results in the column *Number of observations* were compared with the results for column 1 in *2_TableS2.1.do*. The results in *Out of School (%)* were compared with the complement (100% - X) of the results for the variable *attend* in the component *Human Capital* in *2_TableS2.1.do*. The results in *Rural (%)* were compared with the results for the variable *rural* in the component *Demography* in *2_TableS2.1.do*.

Results in Chapter 3

- **Table 3.1** Does not apply: the exhibit does not show data analysis results.
- **Figure S3.1** Does not apply: the exhibit does not show data analysis results.

Results in Chapter 4

- **Table 4.1** Does not apply: the exhibit does not show data analysis results.
- **Table 4A.1** Does not apply: the exhibit does not show data analysis results.
- **Figure 4A.1** Does not apply: the exhibit does not show data analysis results.
- **Figure 4A.2** Does not apply: the exhibit does not show data analysis results.
- **Figure 4A.3** Does not apply: the exhibit does not show data analysis results.
- **Figure 4A.4** Does not apply: the exhibit does not show data analysis results.
- **Figure 4A.5** Does not apply: the exhibit does not show data analysis results.
- **Figure 4A.6** Does not apply: the exhibit does not show data analysis results.

Results in Chapter 5

- **Figure 5.1** Does not apply: the exhibit does not show data analysis results.

Reproduction Environment

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

- OS: Windows 10 Enterprise, version 22H2
- Processor: Intel(R) Xeon(R) Gold 6226R CPU @ 2.90GHz 2.90 GHz (2 processors)
- Memory available: 128 GB
- Software version: Stata 18.0 MP, R 4.2.1, QGIS 3.38.1