Replication Guide for:
A Signal to End Child Marriage: Theory and Experimental Evidence from Bangladesh (AER 2023)
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Contents

Overview

The code and data in this replication package generate the tables and figures in the manuscript and online appendix using STATA. All tables and figures (except figure 1) are generated using primary data collected by the authors (Buchmann et al., 2023). Figure 1 is generated using secondary data (Bangladesh DHS). The code takes roughly 5 minutes to run. Full data (excluding DHS datasets) and documentation can be accessed at https://doi.org/10.3886/E192114V1.

Data Availability

I certify that the authors of the manuscript have legitimate access to and permission to use the data used in this manuscript.

The primary data used to support the findings of this study have been deposited in the AEA repository. The data were collected by the authors and details on the data generation process are available in section 2 of the manuscript.

To construct figure 1, data from the Bangladesh Demographic and Health Survey (DHS) 2004, 2007, 2011, 2014, and 2017 (individual recode and birth recode) were used. These data are not provided in the replication package as DHS data does not allow for redistribution. Users must register to access the data. Data can be downloaded from the DHS website at the following links after registering. Instructions

to register to access the data are provided here: https://www.dhsprogram.com/data/Access-Instructions.cfm.

- Bangladesh DHS 2004 – Individual Recode (BDIR4JFL) and Birth Recode (BDBR4JFL): https://dhsprogram.com/data/dataset/Bangladesh_Standard-DHS_2004.cfm?flag=1
- Bangladesh DHS 2007 – Individual Recode (BDIR51FL) and Birth Recode (BDBR51FL): https://dhsprogram.com/data/dataset/Bangladesh_Standard-DHS_2007.cfm?flag=1
- Bangladesh DHS 2011 – Individual Recode (BDIR61FL) and Birth Recode (BDBR61FL): https://dhsprogram.com/data/dataset/Bangladesh_Standard-DHS_2011.cfm?flag=1
- Bangladesh DHS 2014 – Individual Recode (BDIR70FL) and Birth Recode (BDBR70FL): https://dhsprogram.com/data/dataset/Bangladesh_Standard-DHS_2014.cfm?flag=1
- Bangladesh DHS 2017 – Individual Recode (BDIR7RFL) and Birth Recode (BDBR7RFL): https://dhsprogram.com/data/dataset/Bangladesh_Standard-DHS_2017.cfm?flag=1

After downloading the DHS datasets, the datasets should be renamed to to append the year (for example, add "_2004" to 2004 individual recode and birth recode dataset file names). Then the individual recode datasets should be saved in the *Data/DHS_raw_data/individual_recode* folder and the birth recode datasets should be saved in the *Data/DHS_raw_data/birth_recode* folder.

Replication Package Contents
Code

filepath	purpose
Dofiles/1_clean_DHS.do	cleans DHS data
Dofiles/2_balance.do	creates balance tables
Dofiles/3_attrition.do	creates attrition tables
Dofiles/4_summ_tables.do	generates summary statistic tables
Dofiles/5_graphs.do	generates all graphs
Dofiles/6_model_assumptions.do	checks model assumptions
Dofiles/7_regression_tables.do	runs all analysis regressions and outputs regression tables

Data

filepath	Description	Source	Notes	Provided
Wave I				
Data/waveI_young_women_sample.dta	Wave I young women's survey	Authors' collection	Primary data	Yes
Data/waveI_households.dta	Wave I households survey	Authors' collection	Primary data	Yes
Wave II				
Data/waveII.dta	Wave II census survey	Authors' collection	Primary data	Yes
Wave III				
Data/waveIII.dta	Wave III census survey	Authors' collection	Primary data	Yes
Data/waveIII_young_women_sample.dta	Wave III young women's survey	Authors' collection	Primary data	Yes

Data/spouses.dta	Wave III spouses survey	Authors' collection	Primary data	Yes
Auxiliary data				
Data/village_treat.dta	Treatment status of villages in sample	Authors' collection	Primary data	Yes
Data/kk.dta	KK program enrolment data	Authors' collection	Primary data	Yes
DHS				
Data/DHS_raw_data/individual _recode/BDIR4JFL_2004.dta	Bangladesh DHS 2004 – Individual Recode	DHS	Secondary data	No
Data/DHS_raw_data/individual _recode/BDIR51FL_2007.dta	Bangladesh DHS 2007 – Individual Recode	DHS	Secondary data	No
Data/DHS_raw_data/individual _recode/BDIR61FL_2011.dta	Bangladesh DHS 2011 – Individual Recode	DHS	Secondary data	No
Data/DHS_raw_data/individual _recode/BDIR70FL_2014.dta	Bangladesh DHS 2014 – Individual Recode	DHS	Secondary data	No
Data/DHS_raw_data/individual _recode/BDIR7RFL_2017.dta	Bangladesh DHS 2017 – Individual Recode	DHS	Secondary data	No
Data/DHS_raw_data/births_rec ode/BDBR4JFL_2004.dta	Bangladesh DHS 2004 – Births Recode	DHS	Secondary data	No
Data/DHS_raw_data/births_rec ode/BDBR51FL_2007.dta	Bangladesh DHS 2007 – Births Recode	DHS	Secondary data	No
Data/DHS_raw_data/births_rec ode/BDBR61FL_2011.dta	Bangladesh DHS 2011 – Births Recode	DHS	Secondary data	No
Data/DHS_raw_data/births_rec ode/BDBR70FL_2014.dta	Bangladesh DHS 2014 – Births Recode	DHS	Secondary data	No
Data/DHS_raw_data/births_rec ode/BDBR7RFL_2017.dta	Bangladesh DHS 2017 – Births Recode	DHS	Secondary data	No

Other files and folders
- Output tables are saved in the following folder: Tables/…
- Output graphs are saved in the following folder: Graphs/…
- Manuscript tex file: Signaling Child Marriage-AER.tex
- Online appendix tex file: Signaling Child Marriage Online Appendix.tex
- Bibliography: bib.bib

Replication Instructions
The code succesfully ran and took roughly 5 minutes with Stata 17SE on a Lenovo X390 with 16 GB RAM and and Intel® Core™ i7-8665U processor. The file "0_main.do" will install all dependencies locally, and should be run once.

Running the code
- Change file path for the "user" global in line 35 of *Dofiles/0_main.do.*
- Download the external datasets (DHS datasets) (see the Data Availability section).

- Rename the DHS datasets to append the year (for example, add "_2004" to both the 2004 individual recode and birth recode dataset file names), and add them to the appropriate folders (see the Data Availability section).
- Run *Dofiles/0_main.do.*

Compilation instructions
- To compile the paper tables as they are in the manuscript, .tex files for the manuscript and the appendix are included in the replication folder
  - manuscript: Signaling Child Marriage-AER.tex
  - appendix: Signaling Child Marriage Online Appendix.tex
- after running *Dofiles/0_main.do*, compile *Signaling Child Marriage-AER.tex* for the main manuscript and *Signaling Child Marriage Online Appendix.tex* for the online appendix.

Mapping of Tables/Figures to Output File Names

In-text summary statistics are calculated in *4_summ_tables.do*, lines 372-600.

Main tables

Table number	Output file name	Do-file
Table 1	Column 1: ./Tables/Summary/sindividual_mean.tex Column 2: ./Tables/Summary/sindividual_sd.tex Column 3: ./Tables/Summary/sindividual15_mean.tex Column 4: ./Tables/Summary/sindividual15_sd.tex	4_summ_tables.do
Table 2	./Tables/Reg_ITT/reg_mar_robust0.tex	7_regression_tables.do
Table 3	./Tables/Reg_ITT/reg_edu_robust0.tex	7_regression_tables.do
Table 4	./Tables/Reg_ITT/reg_mc_robust0.tex	7_regression_tables.do
Table 5	./Tables/reg1.tex	7_regression_tables.do

Main figures

Figure number	Output file name	Do-file
Figure 1	./Graphs/DHS.png	5_graphs.do
Figure 2	./Graphs/characteristics.png	5_graphs.do
Figure 3	not generated by code	-
Figure 4	./Graphs/PDF_marriage_age_age0.png	5_graphs.do

Appendix tables

Table number	Output file name	Do-file
Table B.1	./Tables/Balance/balance1_at1_all.tex ./Tables/Balance/balance1_at2_all.tex ./Tables/Balance/balance1_at3_all.tex ./Tables/Balance/balance1_at4_all.tex ./Tables/Balance/balance1_at0_all.tex ./Tables/Balance/balance2_at1_all.tex ./Tables/Balance/balance3_at1_all.tex ./Tables/Balance/balance2_at2_all.tex ./Tables/Balance/balance3_at2_all.tex	2_balance.do

	./Tables/Balance/balance2_at3_all.tex ./Tables/Balance/balance3_at3_all.tex ./Tables/Balance/balance2_at4_all.tex ./Tables/Balance/balance2_at0_all.tex ./Tables/Balance/balance4_at1_all.tex ./Tables/Balance/balance4_at2_all.tex ./Tables/Balance/balance4_at3_all.tex ./Tables/Balance/balance1_at1_unmarried.tex ./Tables/Balance/balance1_at2_unmarried.tex ./Tables/Balance/balance1_at3_unmarried.tex ./Tables/Balance/balance1_at4_unmarried.tex ./Tables/Balance/balance1_at0_unmarried.tex ./Tables/Balance/balance2_at1_unmarried.tex ./Tables/Balance/balance3_at1_unmarried.tex ./Tables/Balance/balance2_at2_unmarried.tex ./Tables/Balance/balance3_at2_unmarried.tex ./Tables/Balance/balance2_at3_unmarried.tex ./Tables/Balance/balance3_at3_unmarried.tex ./Tables/Balance/balance2_at4_unmarried.tex ./Tables/Balance/balance2_at0_unmarried.tex ./Tables/Balance/balance4_at1_unmarried.tex ./Tables/Balance/balance4_at2_unmarried.tex ./Tables/Balance/balance4_at3_unmarried.tex ./Tables/Balance/balance1_at1_ss.tex ./Tables/Balance/balance1_at2_ss.tex ./Tables/Balance/balance1_at3_ss.tex ./Tables/Balance/balance1_at4_ss.tex ./Tables/Balance/balance1_at0_ss.tex ./Tables/Balance/balance2_at1_ss.tex ./Tables/Balance/balance3_at1_ss.tex ./Tables/Balance/balance2_at2_ss.tex ./Tables/Balance/balance3_at2_ss.tex ./Tables/Balance/balance2_at3_ss.tex ./Tables/Balance/balance3_at3_ss.tex ./Tables/Balance/balance2_at4_ss.tex ./Tables/Balance/balance2_at0_ss.tex ./Tables/Balance/balance4_at1_ss.tex ./Tables/Balance/balance4_at2_ss.tex ./Tables/Balance/balance4_at3_ss.tex	
Table B.2	./Tables/Reg_ITT/reg_sc_robust0.tex	7_regression_tables.do
Table B.3	./Tables/Reg_ITT/reg_ss_mar_robust0.tex	7_regression_tables.do
Table B.4	./Tables/Reg_ITT/reg_el_mar_robust0.tex	7_regression_tables.do

Online Appendix tables

Table number	Output file name	Do-file
Table OA.1	./Tables/Summary/summary_table_village.tex - ./Tables/Summary/svill_mean.tex	4_summ_tables.do

	- ./Tables/Summary/svill_sd.tex	
Table OA.2	./Tables/Summary/Monitoring/m_1_ind.tex ./Tables/Summary/Monitoring/m_3_ind.tex ./Tables/Summary/Monitoring/m_5_ind.tex ./Tables/Summary/Monitoring/m_6_ind.tex ./Tables/Summary/Monitoring/m_1_any.tex ./Tables/Summary/Monitoring/m_3_any.tex ./Tables/Summary/Monitoring/m_5_any.tex ./Tables/Summary/Monitoring/m_6_any.tex	4_summ_tables.do
Table OA.3	./Tables/Takeup/Takeup1_oil0.tex ./Tables/Takeup/Takeup1_oil1.tex ./Tables/Takeup/Takeup1_kk_member0_ss.tex ./Tables/Takeup/Takeup1_kk_member1_ss.tex ./Tables/Takeup/Takeup2_oil0.tex ./Tables/Takeup/Takeup3_oil1.tex ./Tables/Takeup/Takeup2_kk_member0_ss.tex ./Tables/Takeup/Takeup3_kk_member1_ss.tex	4_summ_tables.do
Table OA.4	./Tables/Reg_Attrition/attrition.tex	3_attrition.do
Table OA.5	./Tables/Reg_Attrition/attrition_broad.tex	3_attrition.do
Table OA.6	./Tables/Summary/Marriage_age/age1_mean_1.tex ./Tables/Summary/Marriage_age/age1_sd_1.tex ./Tables/Summary/Marriage_age/age1_diff_1.tex ./Tables/Summary/Marriage_age/age1_mean_2.tex ./Tables/Summary/Marriage_age/age1_sd_2.tex ./Tables/Summary/Marriage_age/age1_diff_2.tex ./Tables/Summary/Marriage_age/age1_mean_3.tex ./Tables/Summary/Marriage_age/age1_sd_3.tex ./Tables/Summary/Marriage_age/age1_diff_3.tex ./Tables/Summary/Marriage_age/age1_mean_4.tex ./Tables/Summary/Marriage_age/age1_sd_4.tex ./Tables/Summary/Marriage_age/age1_mean_0.tex ./Tables/Summary/Marriage_age/age1_sd_0.tex ./Tables/Summary/Marriage_age/age2_mean_1.tex ./Tables/Summary/Marriage_age/age2_sd_1.tex ./Tables/Summary/Marriage_age/age2_diff_1.tex ./Tables/Summary/Marriage_age/age2_mean_2.tex ./Tables/Summary/Marriage_age/age2_sd_2.tex ./Tables/Summary/Marriage_age/age2_diff_2.tex ./Tables/Summary/Marriage_age/age2_mean_3.tex ./Tables/Summary/Marriage_age/age2_sd_3.tex ./Tables/Summary/Marriage_age/age2_diff_3.tex ./Tables/Summary/Marriage_age/age2_mean_4.tex ./Tables/Summary/Marriage_age/age2_sd_4.tex ./Tables/Summary/Marriage_age/age2_mean_0.tex ./Tables/Summary/Marriage_age/age2_sd_0.tex ./Tables/Summary/Marriage_age/age3_mean_1.tex ./Tables/Summary/Marriage_age/age3_sd_1.tex	4_summ_tables.do

	./Tables/Summary/Marriage_age/age3_diff_1.tex ./Tables/Summary/Marriage_age/age3_mean_2.tex ./Tables/Summary/Marriage_age/age3_sd_2.tex ./Tables/Summary/Marriage_age/age3_diff_2.tex ./Tables/Summary/Marriage_age/age3_mean_3.tex ./Tables/Summary/Marriage_age/age3_sd_3.tex ./Tables/Summary/Marriage_age/age3_diff_3.tex ./Tables/Summary/Marriage_age/age3_mean_4.tex ./Tables/Summary/Marriage_age/age3_sd_4.tex ./Tables/Summary/Marriage_age/age3_mean_0.tex ./Tables/Summary/Marriage_age/age3_sd_0.tex	
Table OA.7	./Tables/Summary/Exposure/table.tex - ./Tables/Summary/Exposure/group1.tex - ./Tables/Summary/Exposure/group2.tex - ./Tables/Summary/Exposure/group3.tex - ./Tables/Summary/Exposure/group4.tex	6_model_assumptions.do
Table OA.8	./Tables/Reg_ITT/reg_mar_robust1.tex	7_regression_tables.do
Table OA.9	./Tables/Reg_ITT/reg_mar_robust2.tex	7_regression_tables.do
Table OA.10	./Tables/Reg_2SLS/reg_mar_robust3.tex	7_regression_tables.do
Table OA.11	./Tables/Reg_ITT/reg_edu_robust1.tex	7_regression_tables.do
Table OA.12	./Tables/Reg_ITT/reg_edu_robust2.tex	7_regression_tables.do
Table OA.13	./Tables/Reg_2SLS/reg_edu_robust3.tex	7_regression_tables.do
Table OA.14	./Tables/reg3.tex	7_regression_tables.do
Table OA.15	./Tables/reg4.tex	7_regression_tables.do
Table OA.16	./Tables/Summary/Observability_SC/table.tex - ./Tables/Summary/Observability_SC/diff_p.tex - ./Tables/Summary/Observability_SC/diff_s.tex	6_model_assumptions.do
Table OA.17	./Tables/Reg_ITT/Social_Conservatism.tex	6_model_assumptions.do
Table OA.18	./Tables/reg2.tex	7_regression_tables.do

Online Appendix figures

Figure number	Output file name	Do-file
Figure OA.1	not generated by code	-
Figure OA.2	not generated by code	-

References

Nina Buchmann, Erica Field, Rachel Glennerster, Shahana Nazneen, Xiao Yu Wang. 2023. "Data and code for: A Signal to End Child Marriage: Theory and Experimental Evidence from Bangladesh*" American Economic Association* [publisher], Inter-university Consortium for Political and Social Research [distributor]. https://doi.org/10.3886/E192114V1.

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