Education, Social Norms, and Intimate Partner Violence Attitudes

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Abstract

This paper examines cross-country variation in the relationship between women's education and reported acceptance of intimate partner violence (IPV). I combine harmonized microdata from Multiple Indicator Cluster Surveys, conducted between 2005 and 2023, with country-level educational and other national measures. I first estimate country-specific education gradients in acceptance of at least one justification for IPV. In a seven-country subsample, I add controls for parental and interparental violence and assess sensitivity to unobserved confounding. I then relate these gradients to male and female basic education completion ratios. The female education gradients are predominantly negative but highly heterogeneous: 58 of 73 estimates are negative and statistically significant. A 10-percentage-point increase in male attainment is associated with a gradient that is 1.8 percentage points more negative, whereas the same increase in female attainment is associated with a gradient that is 2.2 percentage points less negative. These findings provide comparable cross-country evidence that the female education gradient in IPV acceptance is context-dependent and are consistent with the hypothesis that social norms shape how education translates into expressed opposition to IPV.

Keywords: Social norms, Intimate partner violence, Education, Gender attitudes
JEL Codes: A20, J12, J16, O12

1 Introduction

The World Health Organization estimates that roughly one in four ever-partnered women aged 15 or older have experienced physical and/or sexual intimate partner violence (IPV) at least once in their lives, with women in least-developed and other vulnerable settings bearing a disproportionate burden (World Health Organization 2025). Reported attitudes capture individual acceptance of IPV, but they may also respond to prevailing norms. In settings where opposition to IPV carries a social cost, individuals may be less willing to express that opposition.

Education is one potential factor through which IPV attitudes may change. Much of this evidence, however, comes from specific country, regional, or policy settings, leaving limited comparable evidence on how the relationship between education and IPV acceptance varies across national contexts. Existing studies show that expansions in schooling can reshape gender-role attitudes and, in some settings, reduce the acceptance of IPV (Friedman et al. 2016; Bhuwania and Heymann 2022; Dhar, Jain, and Jayachandran 2022).

This paper addresses this gap by estimating comparable country-specific education gradients in IPV acceptance. Figure 2 displays this heterogeneity: the conditional association between completing basic education and women's IPV acceptance varies across developing countries. This heterogeneity raises the following question: Under what social conditions does women's education translate into lower acceptance of IPV? The analysis focuses on whether higher gender-specific educational attainment rates in a country are associated with a different female education gradient.

To provide a conceptual framework for interpreting this heterogeneity, I follow a norm-dependent attitude-expression framework from Cappelen et al. (2007), López-Pérez (2008), Krupka and Weber (2013), and Kimbrough and Vostroknutov (2016), and show that IPV-related social norms, as reflected in educational attainment rates, can influence reported attitudes even when they do not fully change underlying private beliefs. This model represents norm compliance by assigning a direct cost to departures from a socially appropriate position.[1] The application is also motivated by within-country evidence that women's IPV attitudes respond to local normative environments (Dhamija et al. 2024). I then present the empirical results that follow from the conceptual model.

I combine individual-level microdata from Rounds 3–6 of UNICEF's Multiple Indicator Clus-

[1] The other class of mechanisms operates through reputation or social image.

ter Surveys (MICS) to empirically clarify the questions. MICS are nationally representative repeated cross-sections implemented by national authorities with technical support from UNICEF and broadly standardized questionnaires and survey procedures. The combination of broad geographic coverage and harmonized individual measures makes these data particularly well suited for estimating comparable country-specific education gradients. Beginning in Round 3, year 2005, surveys collected information on whether respondents considered a husband justified in hitting or beating his wife in five situations. I mainly define IPV acceptance as justifying at least one of these scenarios and harmonize individual schooling into an indicator for having completed lower secondary education or more. The analysis is restricted to surveys conducted between 2005 and 2023 and to respondents aged 25–49 with both the education and IPV-attitude measures.

The IPV module is available primarily for women, while comparable male questionnaires are administered only in a subset of countries. I therefore center the analysis on women and use the male sample as a complementary comparison. Because male respondents are not consistently observed across MICS surveys, I measure country-level male and female lower-secondary-or-above attainment rates using comparable World Bank series. I additionally link each survey to country characteristics measured around the survey year, including GDP per capita, male and female employment rates, population composition, and urbanization, as well as to country-level measures of predominant religion. The final analysis covers women in 73 countries and men in 42 countries.

Empirically, I implement a two-step cross-country strategy. In the first step, I estimate a separate survey-weighted linear probability model for each country. Each model relates IPV acceptance to an indicator for completing at least basic education and controls for age, household wealth, and urban residence, together with region and survey-year fixed effects. International organizations (e.g. UNESCO) generally define basic education as primary education plus lower secondary education. I refer to the resulting coefficients as conditional education gradients. Giving these gradients a causal interpretation would additionally require a selection-on-observables assumption.

The main concern to such an interpretation is omitted family background conditions. Childhood exposure to parental and interparental violence is particularly relevant because it may affect both educational attainment and attitudes toward IPV in adulthood. In a seven-country subsample, the surveys record respondents' exposure to these forms of violence. I add these measures to the baseline specification and compare the resulting education gradients with the baseline estimates.

This exercise accounts for observed dimensions of childhood family background, but unobserved confounding may still remain. I therefore report Cinelli–Hazlett partial-R^2 as sensitivity measures, and Oster-style coefficient-stability bounds in Appendix. Cinelli–Hazlett partial-R^2 sensitivity measures how strongly a remaining confounder would have to be related to education and IPV attitudes to reduce the estimated gradient to zero, and Oster bounds assess coefficient sensitivity under proportional selection. (Oster 2019; Cinelli and Hazlett 2020).

In the second step, I regress the estimated country-specific gradients on country-level male and female educational attainment shares and a set of economic, religious, and demographic characteristics. Countries are weighted by the inverse of the estimated first-stage coefficient variance.

To probe whether the second-stage association is consistent with the proposed normative mechanism, I use the 2019-based OECD Social Institutions and Gender Index (SIGI) Discrimination in the Family score and re-estimate the second-stage specification separately in less- and more-patriarchal countries. If the proposed mechanism is operative, stronger patriarchal institutions should limit the extent to which higher male educational attainment is reflected in a more IPV-intolerant normative environment. The negative association between male attainment and the female education gradient should therefore be stronger in less-patriarchal countries.

The empirical analysis yields the following main findings. First, 58 of the 73 country-specific female education gradients are statistically significant and negative, although their magnitudes vary substantially across countries. Second, a 10-percentage-point increase in male lower-secondary-or-above attainment is associated with a female education gradient that is 1.8 percentage points more negative, or 34.8 percent of the absolute mean gradient. The same increase in female attainment is associated with a gradient that is 2.2 percentage points less negative, or 42.6 percent of the absolute mean gradient. Third, the patriarchal-institutions subsamples follow the pattern implied by the proposed normative mechanism: the male-attainment coefficient is more negative in less-patriarchal countries and close to zero in more-patriarchal countries. Lastly, the corresponding associations in the male sample are small and imprecisely estimated.

The coefficient on male attainment remains negative across alternative IPV outcomes, education definitions, samples, and specifications, while adding parental and interparental violence controls produces little change in the estimated gradients in the seven-country subsample.

This study gives two contributions to the literature. First, it provides a harmonized cross-

country account of the conditional education gradient in IPV acceptance. I apply a common empirical specification to harmonized MICS microdata to estimate comparable country-specific gradients—interpreted under a selection-on-observables approach—for women in 73 countries and, as a complementary comparison, for men in 42 countries. Second, the paper provides cross-country evidence that the female education gradient is context-dependent. I show that the gradient is more negative where male lower-secondary-or-above attainment is higher but less negative where female attainment is higher.

The remainder of the paper proceeds as follows. Section 2 develops a conceptual framework for understanding how country-level male educational attainment may moderate the female education gradient in IPV acceptance. Section 3 describes the data and sample construction. Section 4 presents the empirical strategy, discusses the selection-on-observables framework, and reports descriptive statistics. Section 5 presents the main results and robustness analyses. Section 6 concludes.

2 Conceptual Framework of Norm-Dependent Attitudes

This section presents a conceptual model of how male educational attainment can influence the effect of female education on IPV attitudes.

Consider a woman j in country c, who chooses an expressed attitude $A_{jc} \in [0, 1]$, where a higher value indicates stronger expressed opposition to intimate partner violence. Her private belief is

$$B^F_{jc} = B^F(e^F_{jc}), \qquad B^{F\prime}(e^F_{jc}) > 0,$$

so that a woman's own education strengthens her private opposition to IPV.

The social environment is summarized by a sanction-free threshold,

$$S_c = S(E^M_c), \qquad S_M \equiv \frac{\partial S_c}{\partial E^M_c} > 0,$$

where E^M_c denotes country-level male educational attainment. A woman can express any attitude $A_{jc} \leq S_c$ without facing a normative sanction, whereas expressing $A_{jc} > S_c$ entails a social cost. Thus, a higher S_c represents an environment in which stronger opposition to IPV can be expressed

without sanction.

The woman balances the cost of departing from her private belief against the cost of violating the prevailing norm:

$$A^*_{jc} = \arg\min_{A_{jc}\in[0,1]} \left\{ h\big(A_{jc} - B^F(e^F_{jc})\big) + \rho(e^F_{jc}) g\big([A_{jc} - S_c]_+\big) \right\}. \tag{1}$$

The function $h(\cdot)$ captures the discomfort from expressing an attitude inconsistent with one's private belief, while $g(\cdot)$ captures the cost of violating the social norm. I assume that h is minimized at zero and strictly convex, and that g is increasing and convex for positive norm violations. The relative weight

$$\rho(e^F_{jc}) \equiv \frac{\phi(e^F_{jc})}{\pi(e^F_{jc})} > 0$$

measures sensitivity to normative sanctions relative to sensitivity to private-belief mismatch.

To characterize how the male educational environment moderates this effect, write the optimal attitude as $A^*_{jc} = A(B^F_{jc}, \rho_{jc}, S_c)$ and define

$$A_{BS} \equiv \frac{\partial^2 A^*_{jc}}{\partial B^F_{jc} \partial S_c}, \qquad A_{\rho S} \equiv \frac{\partial^2 A^*_{jc}}{\partial \rho_{jc} \partial S_c}.$$

The full expressions and sufficient curvature conditions are reported in Appendix **??**. The maintained conditions $A_{BS} > 0$ and $A_{\rho S} > 0$ have two interpretations. First, a more supportive normative environment allows private beliefs to be more fully reflected in expressed attitudes. Second, an increase in the sanction-free threshold has a larger effect on women who place greater relative weight on normative sanctions.

The moderation effect is then

$$\frac{\partial^2 A^*_{jc}}{\partial e^F_{jc} \partial E^M_c} = \left[B^{F\prime}(e^F_{jc}) A_{BS} + \rho'(e^F_{jc}) A_{\rho S} \right] S_M. \tag{2}$$

Assuming $B^{F\prime} > 0$, $A_{BS} > 0$, $A_{\rho S} > 0$, and $S_M > 0$, the sign of this expression depends critically on how education changes relative norm sensitivity.

If $\rho'(e^F_{jc}) \geq 0$, education increases sensitivity to normative sanctions relative to the cost of misrepresenting one's private belief. In a restrictive normative environment, the IPV-opposing

private beliefs of more-educated women are therefore disproportionately suppressed. An increase in male educational attainment raises the sanction-free threshold and releases this suppression, so that the positive effect of women's education on expressed IPV opposition becomes unambiguously stronger.

If instead $\rho'(e_{jc}^F) < 0$, education reduces relative sensitivity to normative sanctions. More-educated women are then less constrained by an IPV-tolerant environment even before the threshold rises. A more supportive male normative environment may therefore benefit less-educated, more norm-sensitive women relatively more, which tends to flatten the female education gradient. The overall sign is ambiguous:

$$\frac{\partial^2 A_{jc}^*}{\partial e_{jc}^F \partial E_c^M} > 0 \quad \Longleftrightarrow \quad B^{F\prime}(e_{jc}^F) A_{BS} > \left|\rho'(e_{jc}^F)\right| A_{\rho S}.$$

Thus, when the private-belief transmission channel dominates, male attainment still strengthens the female education effect; when the norm-sensitivity channel dominates, it weakens the effect.

Because the empirical outcome is IPV acceptance rather than IPV opposition, a positive value of $\partial^2 A_{jc}^*/(\partial e_{jc}^F \partial E_c^M)$ corresponds to a female education coefficient on IPV acceptance that becomes more negative as male educational attainment rises.

3 Data and Sample Construction

3.1 MICS Data and Survey Coverage

The paper uses individual-level data from Rounds 3–6 of UNICEF's Multiple Indicator Cluster Surveys (MICS), covering surveys conducted between 2005 and 2023. MICS consists of nationally representative, cross-sectional household surveys implemented by national authorities with support from UNICEF. Beginning in Round 3, the surveys commonly include questions on whether respondents consider a husband justified in hitting or beating his wife under five circumstances, together with information on respondents' education and other socioeconomic characteristics.

The IPV module is administered primarily to women, while comparable questionnaires for men are available only in a subset of countries. I therefore use women as the main analysis sample and men as a complementary analysis. Because survey availability varies across countries and rounds,

a country may consist of observations from one or multiple survey waves.

3.2 IPV-Attitude Measures and Lower-Secondary Completion

The main outcome captures reported acceptance of intimate partner violence (IPV). Respondents are asked whether a husband is justified in hitting or beating his wife if she goes out without telling him, neglects the children, argues with him, refuses to have sex with him, or burns the food. I define an indicator equal to one if the respondent considers IPV justified in at least one of these five situations and zero otherwise. Respondents with no valid response to any of the five items are coded as missing. Analyses of alternative outcomes—an indicator for justifying IPV in at least two of these five situations, the number of justified situations, and specifications requiring respondents to have at least four valid responses—are shown in the appendix.

Constructing a comparable variable of lower-secondary completion requires additional harmonization because MICS education variables are not coded uniformly across countries and surveys. Some surveys distinguish lower from upper secondary education, whereas others combine the two stages into a single secondary category. Reported grades also differ in whether they represent cumulative grades since entry into primary school or grades that restart within each education stage. I therefore combine the standardized education-level variable, the detailed education-level variable, the completed-grade variable, and the grade-attended variable to construct the lower-secondary completion variables.

I first classify education into primary or less, lower secondary, secondary, and tertiary. Yet, the classification using the education-level variable does not precisely identify the secondary education level. I use cumulative completed years of schooling and country-specific education-stage thresholds to determine lower-secondary completion.

Theoretical durations of primary, lower-secondary, and upper-secondary education reported in the World Bank Education Statistics since 1970 are used to construct these education-system thresholds. When duration data are unavailable for earlier cohort years, values for 1966 to 1969 and missing values are supplemented by documented historical education structures. Because national school systems may change over time, I match each respondent to the education-stage thresholds corresponding to their country and reference year at age 10. This procedure allows different birth cohorts within the same country to face different school-system structures.

I next convert reported grades into cumulative years of schooling. Grades already reported cumulatively are used directly. When grades restart within an education stage, I add the completion threshold of the preceding stage. For example, I add the primary completion threshold to a grade reported within lower secondary, the lower-secondary threshold to a grade reported within upper secondary, and the secondary threshold to a grade reported within tertiary education. The final lower-secondary-completion indicator combines education-stage and grade information. Respondents whose detailed education level clearly indicates that they have not completed lower secondary are coded zero, whereas those clearly observed in tertiary, post-secondary, or another level above lower secondary are coded one. The upper-secondary-completion indicator is also constructed in the same way for robustness-check analyses.

3.3 Country-Level Educational and Contextual Measures

I combine the individual-level MICS data with country-level measures constructed from the World Bank and World Population Review. The main country-level explanatory variables are the shares of men and women aged 25 or older who have completed at least lower-secondary education. I also use survey-year measures of GDP per capita (constant 2021 international dollars), male and female employment rates, urban population share, and demographic composition of youth as country-level controls.

Annual country-level variables are matched to the corresponding MICS survey years. For educational-attainment series, missing observations within the observed range are filled using linear interpolation, while observations outside the available range are assigned the nearest available value using data from 1991 to 2023. Among the imputed attainment values used in the analysis, 81 percent are obtained through linear interpolation, and 19 percent are obtained through nearest-value extrapolation. When a country appears in multiple MICS waves, the corresponding survey-year country measures are aggregated using weights based on the number of observations contributed by each survey year.

To capture broad differences in religious environments, I construct an indicator for the predominant religion using country-level religious composition data from World Population Review for 2010 and 2020, matching it to the nearest survey year. For countries for which these data are unavailable, I supplement the information using U.S. Department of State country reports. The

predominant religions for Nauru and Namibia are classified in this way.

For the analysis of patriarchal institutions, I additionally use the OECD Social Institutions and Gender Index (SIGI) Discrimination in the Family score. The main measure is based on the 2019 edition; yet the 2019 score of Suriname is unavailable, so I use the corresponding 2023 value. Higher values indicate more discriminatory and patriarchal family institutions.

3.4 Analysis Samples and Coverage

The individual-level analysis is restricted to respondents aged 25–49. The upper age bound reflects the range over which the IPV-attitude module is administered, while the lower bound aligns the individual sample more closely with the World Bank educational-attainment measures, which refer to adults aged 25 or older. Respondents must have valid information on the IPV-attitude outcome, lower-secondary completion, the individual-level covariates, and country-level measures. The resulting main female sample covers 73 countries. Comparable male MICS data are available for 42 countries, which form the complementary male sample.

Tajikistan is not included in the main female sample because the relevant IPV questionnaire is restricted to married women. It is included in the married-women analysis, increasing that sample from 73 to 74 countries. In addition, a seven-country female subsample contains measures of parental and interparental violence. I use this subsample to examine how controlling for observed childhood family conditions changes the estimated education gradients and to assess their sensitivity to remaining unobserved confounding.

4 Empirical Strategy

5 Results

6 Conclusion

7 Tables and figures

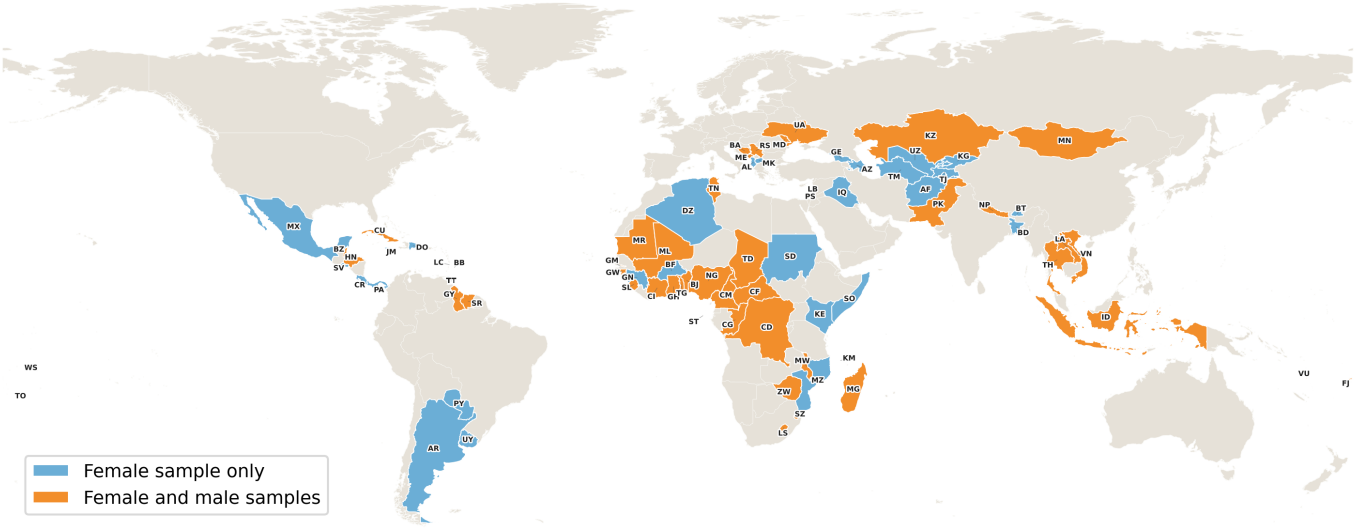


Figure 1: Map of the sampled countries

Table 1: Summary statistics

	Female (73 countries)		Female (42 countries)		Male (42 countries)	
Variable	Mean (SD)	N countries	Mean (SD)	N countries	Mean (SD)	N countries
Domestic Violence	0.276	73	0.298	42	0.202	42
	(0.222)		(0.208)		(0.147)	
Lower Secondary +	0.561	73	0.510	42	0.585	42
	(0.266)		(0.261)		(0.219)	
Age	35.298	73	35.173	42	35.572	42
	(1.512)		(1.439)		(1.705)	
Poorest	0.135	73	0.131	42	0.150	42
	(0.043)		(0.040)		(0.040)	
Second	0.164	73	0.163	42	0.175	42
	(0.037)		(0.032)		(0.033)	
Middle	0.186	73	0.187	42	0.193	42
	(0.030)		(0.024)		(0.018)	
Fourth	0.223	73	0.228	42	0.223	42
	(0.021)		(0.019)		(0.024)	
Richest	0.291	73	0.291	42	0.260	42
	(0.101)		(0.077)		(0.061)	
Urban	0.555	73	0.509	42	0.491	42
	(0.175)		(0.159)		(0.167)	
Currently Married	0.755	73	0.767	42	0.732	42
	(0.101)		(0.074)		(0.120)	

Table 2: Mean acceptance of specific IPV justifications

Variable	Mother (73 countries)	Mother (42 countries)	Father (42 countries)
Argues with husband	0.1488	0.1526	0.1048
	(0.1533)	(0.1401)	(0.0910)
Burns food	0.0807	0.0951	0.0477
	(0.0991)	(0.1126)	(0.0598)
Goes out without telling husband	0.1576	0.1677	0.0984
	(0.1576)	(0.1490)	(0.0932)
Refuses sex	0.1244	0.1340	0.0710
	(0.1472)	(0.1440)	(0.0729)
Neglects children	0.1976	0.2172	0.1297
	(0.1668)	(0.1626)	(0.1066)

Notes: Entries are country-equal means. Parentheses report the standard deviation across country-specific weighted means. The first mother column uses all available mother countries; the second mother column is restricted to countries matched to the father sample.

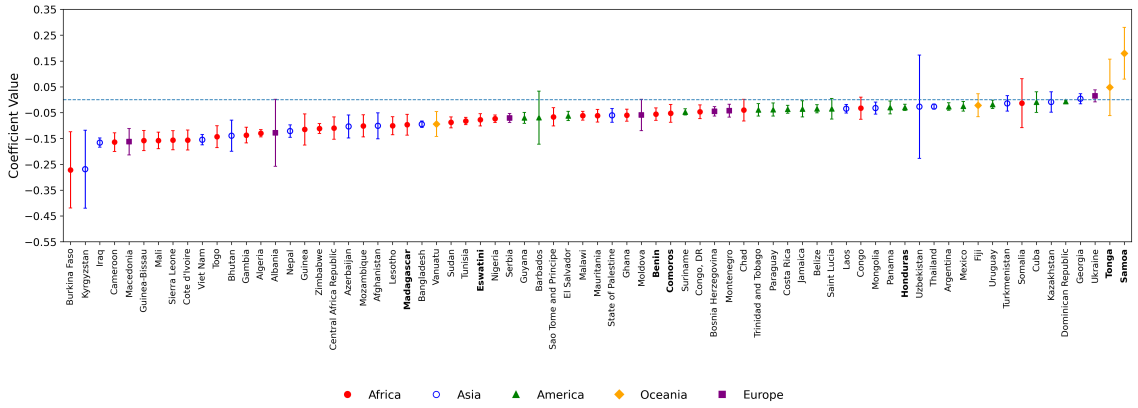


Figure 2: Female lower-secondary-or-above attainment and the education gradient in IPV attitudes

Table 3: Sensitivity analysis with household background controls

	Restricted model				Controlled model				Cinelli–Hazlett sensitivity			
Country	Estimate	95% CI	R^2	N	Estimate	95% CI	R^2	N	$R^2_{Y\sim D\mid X}$	RV	$RV_{\alpha=.05}$	1× formal bound R^2_D/R^2_Y
Madagascar	-0.137	[-0.200, -0.075]	0.089	2,884	-0.138	[-0.200, -0.077]	0.097	2,884	1.08%	9.92%	4.49%	0.25% / 0.82%
Comoros	-0.058	[-0.125, 0.008]	0.032	832	-0.058	[-0.124, 0.008]	0.038	832	0.45%	6.49%	0.00%	0.77% / 0.62%
Benin	-0.045	[-0.080, -0.011]	0.139	3,412	-0.041	[-0.076, -0.007]	0.146	3,412	0.18%	4.17%	0.64%	0.22% / 0.91%
Honduras	-0.023	[-0.037, -0.010]	0.034	8,934	-0.023	[-0.036, -0.010]	0.034	8,934	0.17%	4.06%	1.52%	0.13% / 0.06%
Eswatini	-0.017	[-0.055, 0.021]	0.023	943	-0.019	[-0.057, 0.019]	0.030	943	0.14%	3.72%	0.00%	0.24% / 0.77%
Tonga	0.050	[-0.084, 0.183]	0.078	1,202	0.048	[-0.085, 0.182]	0.083	1,202	0.06%	2.49%	0.00%	0.43% / 0.50%
Samoa	0.169	[0.029, 0.310]	0.049	1,419	0.166	[0.024, 0.307]	0.052	1,419	0.35%	5.77%	0.90%	0.30% / 0.23%

Notes: The table reports country-specific Step 2 sensitivity statistics. Countries are ordered by the restricted-model estimate in ascending order, so more negative coefficients appear first. The restricted model includes region/year fixed effects and basic controls. The controlled model additionally includes indicators for physical abuse by the respondent's mother/stepmother and father/stepfather and whether her father ever beat her mother. Eswatini did not collect the last item, so its controlled model uses only the two parental/stepparental physical-abuse indicators. $R^2_{Y\sim D\mid X}$ is the weighted partial R^2 of lower-secondary completion with the domestic-violence-attitude outcome. RV is the minimum equal partial-R^2 strength that an omitted confounder would need to have with both treatment and outcome to reduce the coefficient to zero. $RV_{\alpha=.05}$ uses the robust t-statistic reported by Stata and gives the strength required to make the coefficient insignificant at the 5 percent level. The benchmark column reports the Cinelli–Hazlett formal bound for a confounder as strong as the added household-background block; raw observed-block partial R^2 values are used only as diagnostics in the plots.

Table 4: Coefficient bounds under unobservable selection

	Restricted model				Controlled model				Oster approx. bounds		Sign-change BP			
Country	Estimate	95% CI	R^2	N	Estimate	95% CI	R^2	N	$\delta=1$	$\delta=-1$	$+\infty$	$10\lvert\hat\beta\rvert$	$3\lvert\hat\beta\rvert$	$2\lvert\hat\beta\rvert$
Madagascar	-0.137	[-0.200, -0.075]	0.089	2,884	-0.138	[-0.200, -0.077]	0.097	2,884	-0.141	-0.136	0.997	4.085	27.911	27.911
Comoros	-0.058	[-0.125, 0.008]	0.032	832	-0.058	[-0.124, 0.008]	0.038	832	-0.057	-0.059	1.000	2.474	8.091	9.223
Benin	-0.045	[-0.080, -0.011]	0.139	3,412	-0.041	[-0.076, -0.007]	0.146	3,412	-0.019	-0.064	0.528	0.528	0.528	0.528
Honduras	-0.023	[-0.037, -0.010]	0.034	8,934	-0.023	[-0.036, -0.010]	0.034	8,934	-0.019	-0.027	1.000	1.325	1.325	1.325
Eswatini	-0.017	[-0.055, 0.021]	0.023	943	-0.019	[-0.057, 0.019]	0.030	943	-0.021	-0.016	0.630	2.369	2.369	2.369
Tonga	0.050	[-0.084, 0.183]	0.078	1,202	0.048	[-0.085, 0.182]	0.083	1,202	0.042	0.055	1.000	1.725	1.725	1.725
Samoa	0.169	[0.029, 0.310]	0.049	1,419	0.166	[0.024, 0.307]	0.052	1,419	0.141	0.190	1.000	1.595	1.595	1.595

Notes: The table reports country-specific Step 3 results, comparing M3 with M4; that is, the restricted model includes region/year fixed effects and basic controls, while the controlled model additionally includes parental domestic-violence controls. The outcome is attitudes toward domestic violence, and the treatment variable is lower secondary completion. The restricted and controlled columns report coefficient estimates, 95% confidence intervals, R^2, and observations. The Oster approximate-bound columns report $\delta=1$ and $\delta=-1$ bounds using $R_{\max}=1.3\widetilde{R}$, capped at 1. The sign-change BP columns report exact Oster sign-change breakdown points computed with pweights using the pweight-supporting regsensitivity fork. $+\infty$ imposes no magnitude restriction; the other columns impose $|OVB|\le p|\hat\beta_{med}|$ for $p=10,3,2$. For Eswatini, the survey did not collect the item asking whether the respondent's father ever beat her mother, so its controlled model uses only the two available items measuring physical abuse of the respondent by her mother/stepmother and by her father/stepfather.

Table 5: Female education gradients by gender-specific attainment groups

	Estimated education gradient			
	Baseline	+ Economic controls	+ Religion	+ Demographics
Male lower-sec.: middle	-0.0459**	-0.0471**	-0.0377	-0.0487**
	(0.0227)	(0.0216)	(0.0227)	(0.0219)
Male lower-sec.: high	-0.0883**	-0.0824**	-0.0752**	-0.0797**
	(0.0348)	(0.0356)	(0.0333)	(0.0316)
Female lower-sec.: middle	0.0883***	0.0602***	0.0462**	0.0528**
	(0.0215)	(0.0220)	(0.0225)	(0.0204)
Female lower-sec.: high	0.1359***	0.1010***	0.0960***	0.0926***
	(0.0319)	(0.0376)	(0.0344)	(0.0327)
Log GDP per capita		0.0233**	0.0160**	0.0000
		(0.0108)	(0.0080)	(0.0084)
Male employment rate		-0.0002	0.0002	0.0003
		(0.0006)	(0.0005)	(0.0004)
Female employment rate		0.0009*	0.0003	0.0003
		(0.0005)	(0.0003)	(0.0003)
Predominantly Muslim			-0.0437***	-0.0416***
			(0.0103)	(0.0101)
Other religion			-0.0144	-0.0155
			(0.0140)	(0.0142)
Urban population (%)				0.0005*
				(0.0002)
Population ratio: $\leq 30/40$s				-0.0236**
				(0.0108)
Countries	73	73	73	73
Mean	-0.0517	-0.0517	-0.0517	-0.0517
Adjusted R^2	0.270	0.377	0.497	0.527

Notes: Country is the unit of analysis. The dependent variable is the first-stage country-specific coefficient for women (the estimated education gradient). The lower-secondary education shares are grouped as low (below 30, omitted), middle (30 to below 60), and high (60 or above). Regressions use analytic weights equal to the inverse squared first-stage standard error, $1/\widehat{\mathrm{SE}}(c)^2$. Heteroskedasticity-robust standard errors are in parentheses. Predominantly Christian countries form the omitted religion category. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 6: Female education gradients by family-patriarchy group

	Low Family Patriarchy (≤ mean)				High Family Patriarchy (> mean)			
	Baseline	+ Economic controls	+ Religion	+ Demographics	Baseline	+ Economic controls	+ Religion	+ Demographics
Male secondary+ share	-0.0031***	-0.0027*	-0.0027*	-0.0027*	-0.0002	-0.0011	-0.0008	-0.0009
	(0.0009)	(0.0014)	(0.0015)	(0.0013)	(0.0010)	(0.0010)	(0.0012)	(0.0009)
Female secondary+ share	0.0031***	0.0027**	0.0027**	0.0026**	0.0019**	0.0027**	0.0022	0.0024**
	(0.0008)	(0.0012)	(0.0013)	(0.0011)	(0.0009)	(0.0010)	(0.0013)	(0.0011)
Log GDP per capita		0.0048	0.0036	-0.0214*		-0.0011	-0.0027	-0.0148
		(0.0106)	(0.0107)	(0.0109)		(0.0103)	(0.0099)	(0.0125)
Male employment rate		0.0000	0.0000	0.0002		-0.0008	-0.0005	-0.0007
		(0.0008)	(0.0009)	(0.0008)		(0.0006)	(0.0008)	(0.0008)
Female employment rate		-0.0006	-0.0007	-0.0007		0.0010**	0.0007	0.0008
		(0.0007)	(0.0007)	(0.0005)		(0.0004)	(0.0006)	(0.0006)
Predominantly Muslim			-0.0090	-0.0016			-0.0156	-0.0123
			(0.0243)	(0.0254)			(0.0143)	(0.0150)
Other religion			0.0036	0.0088			-0.0204	-0.0288
			(0.0180)	(0.0178)			(0.0217)	(0.0201)
Urban population (%)				0.0007				-0.0001
				(0.0004)				(0.0004)
Population ratio: ≤ 30/40s				-0.0239**				-0.0487**
				(0.0100)				(0.0171)
Countries	40	40	40	40	30	30	30	30
Mean	-0.0333	-0.0333	-0.0333	-0.0333	-0.0845	-0.0845	-0.0845	-0.0845
Adjusted R^2	0.310	0.280	0.240	0.300	0.332	0.405	0.374	0.428

Notes: Country is the unit of analysis. The dependent variable is the first-stage country-specific coefficient for women (the estimated education gradient). The Family Patriarchy split uses the unweighted country mean, 45.6543, among the 70 female main-sample countries with an observed 2019-based score; low includes equality. Columns 1–4 report the low group and columns 5–8 report the high group. Within each group, the four columns reproduce the Baseline, Economic controls, Religion, and Demographics specifications; the continuous Family Patriarchy score is not included as a regressor. Regressions use analytic weights equal to the inverse squared first-stage standard error, $1/\widehat{\mathrm{SE}}(c)^2$. Heteroskedasticity-robust standard errors are in parentheses. Predominantly Christian countries form the omitted religion category. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 7: Female education gradients in married and unmarried samples

	Married women Estimated education gradient				Unmarried women Estimated education gradient			
	Baseline	+ Economic controls	+ Religion	+ Demographics	Baseline	+ Economic controls	+ Religion	+ Demographics
Male secondary+ share	-0.0025***	-0.0024**	-0.0015	-0.0017*	-0.0029***	-0.0031***	-0.0022**	-0.0025***
	(0.0008)	(0.0010)	(0.0010)	(0.0009)	(0.0008)	(0.0009)	(0.0010)	(0.0009)
Female secondary+ share	0.0032***	0.0030***	0.0021**	0.0021**	0.0037***	0.0040***	0.0029***	0.0028***
	(0.0008)	(0.0009)	(0.0009)	(0.0008)	(0.0007)	(0.0009)	(0.0009)	(0.0009)
Log GDP per capita		0.0065	0.0054	-0.0115		-0.0031	-0.0034	-0.0152*
		(0.0074)	(0.0076)	(0.0094)		(0.0103)	(0.0098)	(0.0084)
Male employment rate		-0.0003	0.0001	0.0002		0.0001	0.0003	0.0001
		(0.0008)	(0.0007)	(0.0007)		(0.0007)	(0.0006)	(0.0005)
Female employment rate		0.0009*	0.0005	0.0005		0.0007	0.0000	0.0002
		(0.0005)	(0.0005)	(0.0005)		(0.0006)	(0.0006)	(0.0006)
Predominantly Muslim			-0.0324**	-0.0316**			-0.0410***	-0.0405**
			(0.0130)	(0.0123)			(0.0147)	(0.0155)
Other religion			-0.0131	-0.0161			-0.0043	-0.0140
			(0.0207)	(0.0210)			(0.0196)	(0.0157)
Urban population (%)				0.0004				0.0003
				(0.0003)				(0.0002)
Population ratio: ≤ 30/40s				-0.0272**				-0.0358***
				(0.0110)				(0.0090)
Countries	74	74	74	74	73	73	73	73
Mean	-0.0496	-0.0496	-0.0496	-0.0496	-0.0462	-0.0462	-0.0462	-0.0462
Adjusted R^2	0.345	0.394	0.443	0.474	0.403	0.418	0.463	0.523

Notes: Country is the unit of analysis. For women, the dependent variable is the first-stage country-specific coefficient (the estimated education gradient). Columns 1–4 report the married sample and columns 5–8 report the unmarried sample. Regressions use analytic weights equal to the inverse squared first-stage standard error, $1/\widehat{\mathrm{SE}}(c)^2$. Heteroskedasticity-robust standard errors are in parentheses. Predominantly Christian countries form the omitted religion category. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 8: Male education gradients and gender-specific attainment shares

	Estimated education gradient			
	Baseline	+ Economic controls	+ Religion	+ Demographics
Male secondary+ share	-0.0015**	-0.0014	-0.0011	-0.0003
	(0.0007)	(0.0009)	(0.0012)	(0.0010)
Female secondary+ share	0.0015**	0.0016	0.0011	0.0004
	(0.0006)	(0.0010)	(0.0012)	(0.0009)
Log GDP per capita		-0.0010	0.0037	0.0219**
		(0.0094)	(0.0114)	(0.0105)
Male employment rate		0.0004	0.0004	0.0007
		(0.0005)	(0.0005)	(0.0006)
Female employment rate		0.0002	0.0003	-0.0001
		(0.0006)	(0.0008)	(0.0007)
Predominantly Muslim			-0.0172	-0.0106
			(0.0146)	(0.0148)
Other religion			-0.0103	-0.0082
			(0.0222)	(0.0179)
Urban population (%)				-0.0011***
				(0.0004)
Population ratio: $\leq 30/40$s				0.0138
				(0.0094)
Countries	42	42	42	42
Mean	-0.0305	-0.0305	-0.0305	-0.0305
Adjusted R^2	0.052	0.042	0.030	0.247

Notes: Country is the unit of analysis. The dependent variable is the first-stage country-specific coefficient for men (the estimated education gradient). Regressions use analytic weights equal to the inverse squared first-stage standard error, $1/\widehat{\mathrm{SE}}(c)^2$. Heteroskedasticity-robust standard errors are in parentheses. Predominantly Christian countries form the omitted religion category. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

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Appendix

Reference Tables and Variable Definitions