

# Democracy Does Mitigate Gender Bias

## A Gender Stereotypes Perspective

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## Research question and contribution

### Question

Does cumulative exposure to democratic institutions reduce gender-related cognitive biases at the individual level?

- ▶ Micro evidence from the Integrated Values Surveys: 647,540 respondents, 117 economies, 1981–2023.
- ▶ Democratic exposure is built from V-Dem's electoral, liberal, participatory, deliberative, and egalitarian democracy dimensions.
- ▶ Gender stereotypes are measured across five domains: politics, business leadership, tertiary education, childcare, and jobs.
- ▶ The paper examines mechanisms and conditions: altruism, liberalism, economic performance, stability, corruption, and environmental preferences.

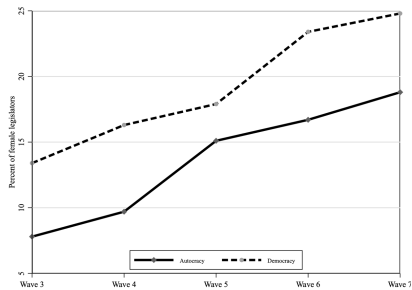
## Why democracy may matter for gender stereotypes

- ▶ Gender stereotypes are internalized beliefs, not only observed gaps in representation or labor-market outcomes.
- ▶ Democratic institutions can reshape social learning through political inclusion, civil liberties, accountability, and public contestation.
- ▶ The central empirical challenge is to distinguish democratic exposure from cohort effects, modernization, and pre-existing cultural trends.
- ▶ The paper focuses on cumulative institutional exposure rather than one-shot democratization events.

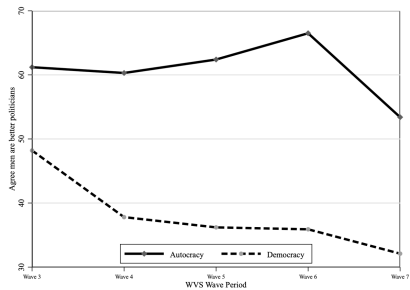
### Core intuition

Exposure to effective democratic functioning can gradually weaken the association between masculinity and authority, and between femininity and caregiving roles.

## Motivating pattern: representation and attitudes by regime



(a) Female representation in legislatures



(b) Agreement that men make better political leaders

Source: Figure 1. Original embedded graphics extracted directly from the paper PDF.

## Conceptual framework

### Institutional channel

- ▶ Inclusive elections and representation
- ▶ Civil liberties and deliberation
- ▶ Public accountability and rights claims
- ▶ Norm diffusion through repeated exposure

### Moderating conditions

- ▶ Individual altruism
- ▶ Liberal orientation and autonomy
- ▶ Sustained economic growth
- ▶ Peace, political stability, low corruption
- ▶ Preference for environmental stewardship

### Prediction

Democratic exposure should be negatively associated with gender stereotype scores, with stronger effects when democratic institutions are socially credible and pro-social norms are salient.

## Data architecture

- ▶ **Individual attitudes:** Integrated Values Surveys, combining EVS and WVS waves.
- ▶ **Democracy:** V-Dem indices; arithmetic mean of five democracy dimensions, normalized from 0 to 1.
- ▶ **Exposure:** cumulative democracy score from the schooling-age period onward.
- ▶ **Controls:** gender, town size, education, marital status, children, family saving, responsibility, trust, and openness to immigrants.
- ▶ **Fixed effects:** survey wave, region, year, and age.

## Outcome variables and main covariates

Outcome	Survey statement (higher score = stronger bias)	N	Mean	SD	Range
Leaders	"Men make better political leaders than women"	796,226	2.482	0.983	1-4
Executives	"Men make better business executives than women"	549,402	2.302	0.958	1-4
University	"University is more important for a boy than a girl"	811,333	2.002	0.912	1-4
Preschool	"A pre-school child suffers if the mother works"	566,272	2.535	0.912	1-4
Jobs	"When jobs are scarce, men should have more right to a job"	1,000,316	1.899	0.912	1-3

### Core exposure

Cumulative V-Dem democracy exposure:  $N = 989,947$ , mean 20.04, SD 12.38.

### Main controls

Gender, town size, education, marriage, children, savings, responsibility, trust, and openness to immigrants.

Source: Table 1.

## Baseline specification

$$y_{wita} = \beta Democracy_{ita} + X'_{wita} \gamma + \theta_w + \eta_i + \varphi_t + v_a + \varepsilon_{wita}$$

- ▶ Dependent variable: one of five stereotype scores; higher values indicate stronger gender bias.
- ▶ Key regressor: age-adjusted cumulative democratic exposure.
- ▶ Identification comes from within-region, within-wave, within-year, and within-age variation, conditional on individual controls.
- ▶ A negative  $\beta$  is interpreted as lower endorsement of gender-biased beliefs.

## Baseline results: democracy reduces stereotype scores

	Leaders	Executives	University	Preschool	Jobs
Democracy	-0.2758*** (0.0050)	-0.2235*** (0.0061)	-0.2017*** (0.0046)	-0.2555*** (0.0084)	-0.1600*** (0.0045)
Observations	163,604	107,737	166,036	69,636	168,862
$R^2$	0.172	0.177	0.100	0.070	0.201

### Specification

Individual controls plus region, year, age, and survey-wave fixed effects. Coefficients are standardized; robust standard errors are in parentheses.

### Result

All five estimates are negative at the 1% level. The strongest decline concerns political leadership; the weakest concerns job priority under scarcity.

Source: Table 2.

## Economic interpretation of the baseline estimates

- ▶ A one-standard-deviation increase in democratic exposure is associated with lower stereotype scores in all five domains.
- ▶ The largest standardized reduction is for political leadership attitudes:  $-0.276$ .
- ▶ Effects are also sizeable for business executives, university access, childcare, and job priority.
- ▶ The weakest effect is for the job-scarcity item, consistent with deeper persistence of labor-market norms.

### Reading the result

Democracy appears most powerful where stereotypes concern public authority and legitimacy; labor-market allocation norms adjust more slowly.

## Endogeneity concern and 2SLS design

- ▶ Concern: gender-egalitarian cultures may democratize more easily, or both may be driven by development and openness.
- ▶ Instrument: average democratic exposure in other countries within the same geographic region and with comparable political histories.
- ▶ Rationale: democratization waves diffuse regionally, while individual gender attitudes are unlikely to be directly shaped by other countries' democratic scores except through domestic exposure.
- ▶ First stages are strong across all five outcomes.

## 2SLS results: instrumented democracy remains negative

	Leaders	Executives	University	Preschool	Jobs
<i>First stage: regional democracy-wave instrument</i>					
Instrument	0.0624***	0.0608***	0.0621***	0.0535***	0.0635***
First-stage $F$	66,827	61,275	67,306	27,393	71,703
<i>Second stage: effect of instrumented democratic exposure</i>					
Democracy	-0.3343*** (0.0071)	-0.1863*** (0.0086)	-0.1839*** (0.0065)	-0.4072*** (0.0128)	-0.1789*** (0.0064)
Observations	163,452	107,666	165,878	69,614	168,699

### Diagnostics

Kleibergen–Paap LM tests reject underidentification and Wald  $F$  statistics indicate very strong instruments in every outcome equation.

Source: Table 3.

## Placebo test: pre-birth democracy

- ▶ Pre-birth democracy averages the country's democracy score during the ten years before the respondent was born; it captures cohort trends but cannot directly shape personal attitudes.
- ▶ Post-birth exposure remains substantially larger in absolute value, and coefficient equality is rejected in every domain.

	Leaders	Executives	Univ.	Preschool	Jobs
Post-birth democracy	-.2119***	-.1700***	-.1539***	-.1811***	-.1132***
Pre-birth democracy	-.0750***	-.0705***	-.0656***	-.1189***	-.0565***
<i>p</i> : equality	0.000	0.000	0.000	0.000	0.000
<i>N</i>	158,460	105,929	160,832	68,827	163,538

Source: Table 4.

## Moderation by altruism

- ▶ Altruism is proxied by membership in humanitarian, charitable, self-help, or mutual-aid groups.
- ▶ Negative interactions reinforce democracy's bias-reducing effect; childcare is the exception, consistent with family-duty norms.

	Leaders	Executives	Univ.	Preschool	Jobs
Democracy	-.2743***	-.2212***	-.1993***	-.2588***	-.1564***
Altruism × Democracy	-.0155**	-.0200**	-.0349***	+.0269***	-.0384***
<i>N</i>	163,604	107,737	166,036	69,636	168,862

Source: Table 5.

## Moderation by liberalism

- ▶ Liberalism is measured by perceived freedom of choice and control over life and is directly associated with lower stereotype scores.
- ▶ Democracy-liberalism interactions are strongest for executive and childcare roles.

	Leaders	Executives	Univ.	Preschool	Jobs
Liberalism	-.0080***	-.0104***	-.0152***	-.0103***	-.0106***
Liberalism × Democracy	-.0020	-.0042***	-.0002	-.0053***	-.0010
N	160,747	106,956	163,092	69,310	165,729

Source: Table 6.

## Successful democracy: growth, stability, and corruption

- ▶ Democratic exposure is more effective when institutions deliver growth, peace, political stability, and low corruption.
- ▶ Reported coefficients correspond to *successful democratic exposure*.

Condition	Leaders	Executives	Univ.	Preschool	Jobs
Economic growth	-.0056***	-.0046***	-.0040***	-.0054***	-.0035***
Peace / stability	-.0055***	-.0044***	-.0040***	-.0052***	-.0032***
Low corruption	-.0069***	-.0054***	-.0052***	-.0043***	-.0038***

### Interpretation

Democracy's normative influence is strongest when citizens experience it as an effective and credible institutional environment, not merely as a regime label.

Source: Table 7, Panels A-C.

## Environmental preference as a selection channel

- ▶ The first-stage probit shows that democratic exposure increases the probability of prioritizing environmental protection over immediate economic growth: 0.0858\*\*\*.
- ▶ The outcome equations relate this selected preference to the five stereotype domains.

	Leaders	Executives	University	Preschool	Jobs
Democracy	-.1685***	-.1052***	-.1305***	-.2095***	-.1263***
Environment over growth	-1.4350***	-1.8508***	-1.6383***	+1.4260***	-1.2527***
K-P Wald <i>F</i>	179.5	108.4	188.8	21.7	186.9
<i>N</i>	114,236	79,729	115,579	52,885	116,663

### Caution

The preschool-care result has the opposite sign and should be interpreted separately from leadership, education, and employment attitudes.

Source: Table 8.

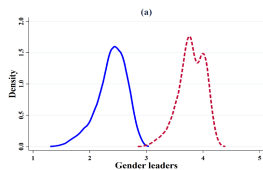
## Heckman correction: accounting for selection bias

- ▶ The inverse Mills ratio is significant in every equation: environmental preferences are non-randomly selected.
- ▶ Democracy remains negatively associated with all five stereotype scores after correction.

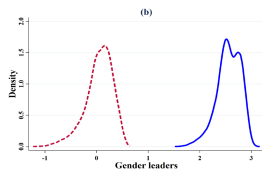
	Leaders	Executives	Univ.	Preschool	Jobs
Democracy	-.1582***	-.0959***	-.1129***	-.3183***	-.1112***
Environment over growth	-1.2359***	-1.9760***	-1.5344***	+4.9100***	-1.1716***
Inverse Mills ratio	+.7202***	+1.1723***	+.9146***	-3.1009***	+.6808***
N	114,236	79,729	115,579	52,885	116,663

Source: Table 9.

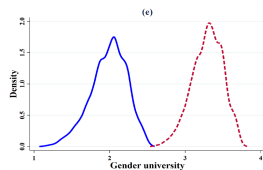
## Counterfactual distributions



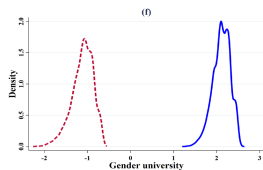
Leaders: factual



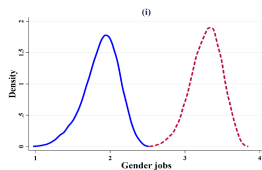
Leaders: counterfactual



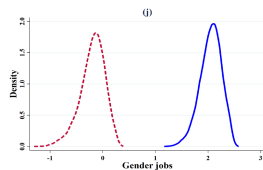
University: factual



University: counterfactual



Jobs: factual



Jobs: counterfactual

Source: Selected panels from Figure 2; the executive and preschool panels display the same factual/counterfactual reversal.

## Takeaways and policy implications

- ▶ Democratic exposure is consistently associated with lower gender stereotypes across five attitudinal domains.
- ▶ The effect is strongest for beliefs about political leadership and weaker for labor-market priority norms.
- ▶ Altruistic and liberal orientations reinforce the democratic effect in several domains, but care-related norms are more complex.
- ▶ The bias-reducing role of democracy depends on economic performance, stability, and low corruption.
- ▶ Democratic participation, institutional quality, and gender-equality policy should be treated as complementary rather than separate agendas.

## Backup 1: robustness architecture

- ▶ Dichotomous and continuous exposure definitions.
- ▶ Alternative formative-age windows: exposure from birth, from age 6, and from age 18.
- ▶ Democracy depreciation specifications, motivated by gradual erosion of democratic capital.
- ▶ Ordered logit and double machine-learning checks.
- ▶ Additional macroeconomic controls and expanded fixed-effects structures.

## Backup 2: alternative outcome coding

Domain	Original coding	Harmonized binary coding
Political leaders	1–4 agreement scale	Agree vs. disagree
Business executives	1–4 agreement scale	Agree vs. disagree
University priority	1–4 agreement scale	Agree vs. disagree
Working mother / preschool	1–4 agreement scale	Agree vs. disagree
Job priority	1–3, including neutral	Agree vs. non-agree

### Coding convention

All items are reverse-coded so that higher values indicate stronger gender bias. Binary specifications confirm the main results despite the different original scales.

## Backup 3: peace and political stability panel

Exposure	Leaders	Executives	Univ.	Preschool	Jobs
Successful dem.	-.0055***	-.0044***	-.0040***	-.0052***	-.0032***
Unsuccessful dem.	-.0042***	-.0028***	-.0013***	-.0088***	-.0037***
Unsuccessful aut.	+.0003***	+.0010***	+.0009***	-.0016***	-.0005***
<i>p</i> : successful = unsuccessful	0.000	0.000	0.000	0.000	0.000

Source: Table 7, Panel B.

## Backup 4: low-corruption panel and hypothesis tests

Exposure	Leaders	Executives	Univ.	Preschool	Jobs
Successful dem.	-.0069***	-.0054***	-.0052***	-.0043***	-.0038***
Unsuccessful dem.	-.0031***	-.0014***	-.0012***	-.0039***	-.0010***
Unsuccessful aut.	-.0003	+.0003	+.0001	+.0014***	+.0004***
<i>p</i> : successful = unsuccessful	0.000	0.000	0.000	0.395	0.000

Source: Table 7, Panel C.

## Backup 5: caveats and extensions

- ▶ Self-reported attitudes are informative but can contain social-desirability and misreporting noise.
- ▶ The design is strong on associations and robustness, but institutional transitions remain complex and multi-causal.
- ▶ Future work can test mediating channels through education systems, media environments, and local democratic innovations.
- ▶ The childcare stereotype deserves separate analysis because pro-social/family-duty norms can operate differently from leadership norms.