

Judicial Independence, State Capacity and Development

Natural and Field Experiments in Development

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State Capacity and Development

- The most recent focus in Development: State Capacity
- “To promote development we have to build state capacity”
- But what is state capacity?
- It is the ability of the State to effectively enforce property rights, political rights and provide public goods
 - Legal capacity - The ability of the State to enforce property and political rights.
 - Bureaucratic capacity - The ability of the State officials to provide public goods
 - Social Capacity - Resilient Social Institutions

Roadmap of Today's Lecture

- Building an Effective State = Building State Capacity
 - ① Reforms in formal institutions to build Legal Capacity: Removing Presidential Appointment of Judges
 - ② Changes in Informal Institutions to build Legal Capacity: Norms of Gift-Exchange
 - ③ Bureaucratic Capacity Building: Training public officials in soft and hard-skills
 - ④ Social Institutions and sanctions: Fostering more progressive gender norms

The Impact of Presidential Appointment of Judges

Montesquieu or the Federalists?

Forthcoming in *AEJ Applied October 2022 Issue*

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Motivation

- In 70% of countries across the world, it is the President who appoints judges to the courts (CIA Factbook, 2021)
 - For instance in Bangladesh, United States, Russia, Singapore, South Africa, Brazil, Nigeria, India ...
- This seems in contradiction to the independence of judiciary
- Presidential appointment of judges may lead to “subversion of separation of powers” (Montesquieu, 1748)
- The “continuance in office” or the institution of life-time appointment (Madison, Hamilton, and Jay, 1788)

Research Question

- To what extent does Presidential appointment of judges impact judicial independence and decision quality?
 - What are the mechanisms?

The Context

- A unique natural experiment in Pakistan allows us to test who is right: Montesquieu or the Federalists?
- In 2010 the judge selection procedure in Pakistan suddenly changed
- From the President selecting the judges to the selection of judges by a Judicial Commission (consisting of peer judges):
 - Only the appointment procedure changed
 - The procedure to remove the judges same
 - The power of the judge the same (helps us isolate selection effect from incentive effects)

Summary of the Main Results

- Selection reform reduces rulings in favor of the government
- Decision quality improves
- Identification: staggered implementation due to mandatory retirement age law
- Mechanisms:
 - Selection and peer effects?
 - Lower political activity prior to appointment
 - No evidence for peer effects
 - Favorable rulings in government land expropriation cases fall
- Selection reform *prevents* land expropriation worth 0.14% of GDP or USD 390 million every year

Related Literature

- **Checks and Balances**

- “Constraints on the Executive” (Acemoglu et al., 2001; La Porta et al., 2004)
- Subversion of the judiciary by the State (Shleifer, and Vishny, 2002; Ramos-Maqueda and Chen, 2020; Behrer et al., 2021)

- **Selection of public officials**

- Selection of politicians (Besley, 2005; Guerriero, 2011; Hessami, 2018)
- Judge selection focus on selection via elections versus governor appointments (Lim, 2013)
- Link judge selection with racial bias (Alesina and La Ferrara, 2014)

- **Bureaucracies in developing countries**

- Bureaucratic performance in developing countries (Acemoglu et al., 2020; Gulzar and Khan, 2021).
- Patronage in bureaucracies (Jiang, 2018; Colonelli et al., 2020)

Contributions

- The key contributions of this paper are
 - ① Show how executive control over the judiciary sharply reduces, when one of the most ubiquitous institutions across the world, the Presidential appointment of judges, is discontinued
 - ② Judge Selection via Presidential appointment versus judge peers
 - ③ Link judicial selection with Judicial Independence and Rule of Law
 - ④ Study judicial independence in the context of a developing country
- What are the conditions for the establishment of Rule of Law in society? (North and Weingast, 1989; Acemoglu and Robinson, 2019)
- How a change in selection procedure of judges may be able to promote Rule of Law

Roadmap

- ① Background
- ② Data
- ③ Empirical Methodology
- ④ Results
- ⑤ Identification
- ⑥ Alternate Explanations
- ⑦ Mechanisms
- ⑧ Conclusions
- ⑨ Appendix: Robustness Checks

- 1 Background
- 2 Data
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Background on the Reform

- 18th amendment to the Constitution of Pakistan
- Before 19th April 2010 President appoints the judges
- After a Judicial Commission appoints judges
 - 11 members in the Judicial Commission
 - 9 judges, 1 law minister, 1 Attorney General
 - Selection by majority voting
 - 9/11 of the members are judges
- More Details 60

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- Judgments texts
- Judicial administrative data
- Annual reports submitted to Ministry of Justice
- Bar associations records
- Census records

Information in Judicial Administrative Data

2.2 RETIREMENT/ELEVATION OF THE HONOURABLE CHIEF JUSTICES DURING 2015 & 2016

MR. JUSTICE KHAWAJA IMTIAZ AHMAD
Judge, Lahore High Court, Lahore
(Sept. 15, 2009 to June 16, 2016)
Chief Justice, Lahore High Court, Lahore
(June 17, 2016 to March 20, 2015)



MR. JUSTICE MANZOOR AHMAD MALIK
Judge, Lahore High Court, Lahore
(Sept. 15, 2009 to March 29, 2015)
Chief Justice, Lahore High Court, Lahore
(March 30, 2015 to Nov. 05, 2015)
Elevated as Judge, Supreme Court of Pakistan
on November 06, 2015



MR. JUSTICE IJAZ UL AHSAN
Judge, Lahore High Court, Lahore
(Sept. 15, 2009 to Nov. 08, 2015)
Chief Justice, Lahore High Court, Lahore
(Nov. 08, 2015 to June 27, 2016)
Elevated as Judge, Supreme Court of Pakistan
on June 28, 2016



Mr. Justice Sahibuddin Ahmad

Born in 1949 at Hyderabad; M.A. Punjab University 1969; LL.B. from Karachi University; participated in inter-collegiate debates, edited college magazine at Government Degree College Sakhar, Government College Lahore and S.M. Law College Karachi; entered legal profession in 1972; practiced at the bar for 25 years and appeared before the Supreme Court in important civil and constitutional matters; founder member of the Human Rights Commission of Pakistan and its Vice-President (1987-1990); participated in several International Conferences on Human Rights and allied issues; contributed several articles to newspapers and periodicals on constitutional Human Rights issues; elected to the bench of the Sindh High Court on 11.1.1997; participated in several International Judicial Conferences; elected member of the International Advisory Council of the International Centre for Promotion of Human Rights (Antwerp) and steering committee of the South Asia Forum legal education on gender issues; member of Board of Trustees of Aga Khan Foundation and Board of Governors, Hamdard University; Senior Partner Judge of the High Court of Sindh since 28.4.2000; Member of Board of Trustees, Aga Khan University, Karachi; and Member of the Board of Governors of Hamdard University, Karachi.



Mr. Justice Mohammad Roshan Essani

Born on 05-08-1961 at Tando Muhammad Khan (Hyderabad, Sindh); B.A. from University of Sindh in 1982; Diploma in Public Administration from University of Sindh in 1982; LL.B. from University of Sindh in 1982; enrolled as Advocate of Sindh District Courts on 06 March 1971; Advocate of High Court 21 April 1973, and Advocate of Supreme Court 1981; Assistant Public Prosecutor from 7.11.1972; Government Pleader District Tharparkar 14.3.1980; on the Panel of Advocates General Sindh from 27.4.1985 till elevation to Bench; Deputy Attorney General of Pakistan from 5.11.1986 to 11.11.1996; Joint Secretary Tharparkar District Bar Association for the Year 1972; General Secretary Tharparkar District Bar Association for the Year 1982; member Executive Committee District Cultural Association for the years 1975 to 1980; member Executive Committee Tharparkar District Tuluwadee Association for the years 1976 to 1981; member Sindh Bar Council from 1985 till elevation to Bench; member Building Committee Sindh Bar Council till elevation to Bench; member Examination Committee Sindh Bar Council; elevated as Judge High Court of Sindh on 27.10.1997; member Sydnose/Senate Mulkhan University of Engineering and Technology Jamshoro Sindh from 24.4.1998; member Board of Governors Indus Valley School of Art and Architecture Karachi from 4.5.1999; Chairman Provincial Election Authority Sindh from 19.6.2000 to 26.4.2002; Acting Chief Justice High Court of Sindh 2.5.2001 to 19.3.2001; Acting Chief Justice High Court of Sindh 25.7.2002 to 2.6.2002; Judge Election Tribunal for disposal of appeals 2002 against the decisions of Returning Officer for Elections of National Assembly and Provincial Assembly Sindh; Judge Election Tribunal for disposal of appeals 2002 against the decisions of Returning Officer for By-Elections of National and Provincial Assembly Sindh; attended Provincial Judicial Conference Sindh 2002 at Karachi.



Sample Description

- We randomly sample 7500 cases from 1986-2016
- This is about 0.2% of population of cases decided in this period
- About 500 judges deciding these cases (85% are appointed by the President)
- 16 district high courts (covers all of Pakistan, see next slide)

How to Measure Judicial Independence?

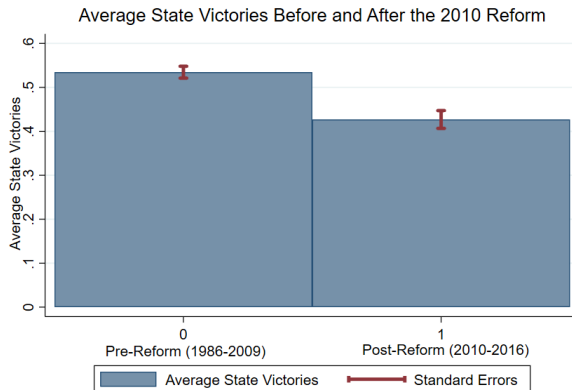
- Citizen vs The State
- The key outcome variable is State Victories which takes the value of 1 if State Wins and 0 if State loses
- This is case level proxy for judicial independence
- State victory variable is measured in two ways:
 - We ask a law firm to code state victories as 1 and state defeats as 0 in cases involving the State
 - Cross check result with “case against state is dismissed/accepted”

A Tale of Two Data Points

- Case # 1: “President may, in the larger public interest may perform all legislative measures which are in accordance with, or could have been made under the Constitution, including the power to amend it. . . **The petition is dismissed.**” (The State vs Tikka Khan, 2005)
- Case # 2: “The fortune amassed is indeed huge and no plausible explanation has been advanced in that regard. Honoré de Balzac may be right after all, when he had said that behind every great fortune for which one is at a loss to account there is a crime. . . **The petition is accepted.** . .

The Election Commission of Pakistan shall issue a notification disqualifying Mian Muhammad Nawaz Sharif from being a member of the Parliament with immediate effect, after which he shall cease to be the Prime Minister of Pakistan” (The State vs Siraj-ul-Haq, 2017)

Selection Reform and Average State Victories



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Empirical Methodology

$$Y_{cjdbt} = \theta + \alpha \frac{\text{Judge Appointed Judges in 2010}}{\text{Total Judges}}_{db} \text{X Post 2010}_t + \beta_{db} + \gamma_t + \delta_c + \mathbf{W}'_{cdt} \psi + \epsilon_{cjdbt} \quad (1)$$









- Subscripts c, j, d, b and t indexes cases, judges, district, benches and years, respectively
- Y represents State Wins at the case level
- β_{db} , γ_t and δ_c are district-by-bench, year and case-type fixed effects, respectively
- \mathbf{W} is a vector of case and district controls
- Clustering is done at the district-by-bench level (similar results for district level or before-after reform clustering)
- α is the DiD estimator for the impact of selection reform on State Wins

Identification Challenge - II

- α , however, still does not give us the causal effect of selection reform on State Wins
- This is because ...
 - “Politicians use frequent reassignments (transfers) across posts of varying importance to control bureaucrats.” (Mani & Iyer, 2012, p. 723)
 - $\text{Corr}(\text{Appointment Effect} \times \text{error}) \neq 0$

The Identification Strategy

A Pictorial Illustration

District 1		District 2		T = 0
Judge A	Judge B	Judge C	Judge D	
				
Judge A	Judge B	Judge C	Judge E	T = 1
				

DID-IV: The First and Second Stage

First Stage:

$$\begin{aligned} & \frac{\text{Judge Appointed Judges in 2010}}{\text{Total Judges}}_{db} \text{X Post 2010}_t = \\ & \theta + \pi \frac{\text{Mandatory Retirements in 2010}}{\text{Total Judges}}_{db} \text{X Post 2010}_t \\ & + \mathbf{W}'_{cdt} \psi + \beta_{db} + \gamma_t + \delta_c + \epsilon_{cjdbt} \end{aligned} \quad (2)$$

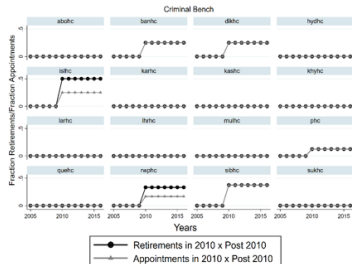
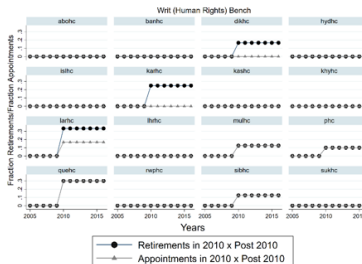
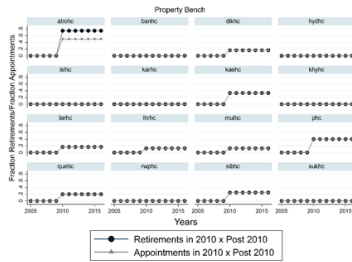
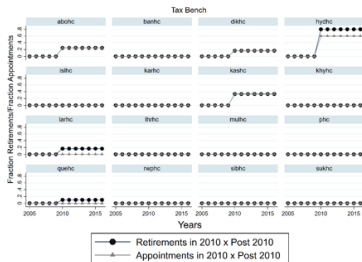
Second Stage:

$$\begin{aligned} Y_{cjdbt} = & \theta + \kappa \left(\frac{\widehat{\text{Judge Appointed Judges in 2010}}}{\text{Total Judges}}_{db} \text{X Post 2010}_t \right) \\ & + \mathbf{W}'_{cdt} \psi + \beta_{db} + \gamma_t + \delta_c + \epsilon_{dbt} \end{aligned} \quad (3)$$

- Instrument fraction of judges appointed by judges in 2010 by the fraction of judges reaching their mandatory retirement age of 62 in 2010

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Instrument Relevance?



Instrument Independence?

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Constitutional Case	Criminal Case	No. Pages	CJ on Case	No. Lawyers on Case	No. Judges on Case	Population	Population Density	Agriculture Production	Night Lights
Retirements in 2010 X Post 2010	0.0251 (0.0824)	-0.0673 (0.103)	-1.421 (0.988)	-0.047* (0.025)	0.647 (0.492)	0.157 (0.157)	-1329735 (793,338)	-909.5 (599.0)	-1256030 (1130347)	0.505 (0.850)
Bench Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	7,439	7,439	7,439	7,439	7,439	7,439	7,439	7,439	7,439	7,439
R-squared	0.382	0.222	0.254	0.027	0.064	0.081	0.950	0.954	0.707	0.768
Mean of dependent variable	0.722	0.279	8.887	0.065	4.042	1.815	3562527	2065.558	465266	8.113

Results

	(1)	(2)	(3)	(4)	(5)
	<i>State Wins</i>				
Retirements in 2010 X Post 2010	-0.149* [0.0887]	-0.202*** [0.0740]			
Retirements in 2009 X Post 2010			0.0619 [0.0639]		
Retirements in 2008 X Post 2010				0.0680 [0.169]	
Retirements in 2007 X Post 2010					0.0275 [0.118]
District-Bench and Year FE	Yes	Yes	Yes	Yes	Yes
Case and District Controls	No	Yes	Yes	Yes	Yes
Observations	7,439	7,439	7,439	7,439	7,439
R-squared	0.055	0.064	0.063	0.063	0.063
Mean of dependent variable	0.50	0.50	0.50	0.50	0.50

Simplest Interpretation of the Design and Results

- Research design uses mandatory retirements as an exogenous source of variation
- We are comparing pro-government rulings across two courts:
 - “Control”: a judge turns 62 in 2009 and the replacement is chosen by the President.
 - “Treated”: a judge turns 62 in 2010 and the replacement is chosen by a Judicial Committee.
- If all Presidential appointees are replaced by the Judicial Committee, State Wins would fall by about 20 p.p. or 40% over the sample mean.

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Key Threats to Identification

- Are we picking up a pure retirement effect?
- Are we picking up an unobserved shock before the reform?

Falsification Test

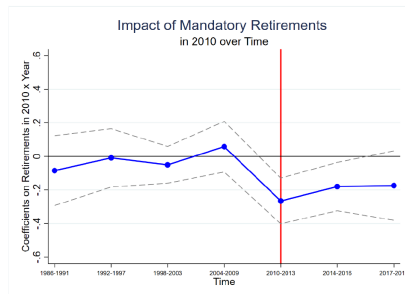
Are we picking up a pure retirement effect?

- Do retirements **before** the reform impact State Wins?

	(1)	(2)	(3)	(4)	(5)
<i>State Wins</i>					
Retirements in 2010 X Post 2010	-0.149* [0.0887]	-0.202*** [0.0740]			
Retirements in 2009 X Post 2010			0.0619 [0.0639]		
Retirements in 2008 X Post 2010				0.0680 [0.169]	
Retirements in 2007 X Post 2010					0.0275 [0.118]
District Bench and Year FE	Yes	Yes	Yes	Yes	Yes
Case and District Controls	No	Yes	Yes	Yes	Yes
Observations	7,439	7,439	7,439	7,439	7,439
R-squared	0.055	0.064	0.063	0.063	0.063
Mean of dependent variable	0.50	0.50	0.50	0.50	0.50

Differential Trends Prior to the Reform?

Are we picking up an unobserved shock before the reform?



$$Y_{cjd\text{b}t} = \theta + \alpha_s \sum_T \frac{\text{Judge Appointed Judges in 2010}}{\text{Total Judges}}_{db} \times \text{Year FE}_s + \beta_{db} + \gamma_t + \delta_c + \mathbf{W}'_{cdt} \boldsymbol{\psi} + \epsilon_{cjd\text{b}t} \quad (4)$$

- Consistent with reform's implementation "in a hurry" (Almedia, 2018)

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Two Alternative Explanations

- President Specific Effect?
- Chief Justice Specific Effect?

Effect of Reform by Different Presidents

	<i>State Wins</i>				
	Pres. Musharraf (1)	Pres. Tarar (2)	Pres. Leghari (3)	Pres. Khan (4)	Pres. Haq (5)
Retirements in 2010 X Post 2010	-0.318*** (0.0972)	3.070 (6.182)	-0.312*** (0.0967)	-0.195 (0.146)	-0.373*** (0.108)
District-Bench and Year FE Controls	Yes Yes	Yes Yes	Yes Yes	Yes Yes	Yes Yes
Observations	2,608	1,049	2,224	1,834	2,249
R-squared	0.104	0.163	0.129	0.144	0.120
Mean Dep. Variable	0.47	0.38	0.45	0.44	0.46

Effect of Reform by Different Chief Justices

	(1)	(2)	(3)
	<i>State Wins</i>		
CJ Jamali X Retirements in 2010 X Post 2010	-0.284*** (0.101)	-0.281*** [0.102]	-0.338** [0.130]
CJ Khawaja X Retirements in 2010 X Post 2010	-0.156 (0.117)	-0.143 [0.112]	-0.212** [0.0983]
CJ Mulk X Retirements in 2010 X Post 2010	-0.166 (0.129)	-0.151 [0.126]	-0.204* [0.117]
CJ Jillani X Retirements in 2010 X Post 2010	-0.202 (0.132)	-0.198 [0.129]	-0.253** [0.114]
CJ Chaudhry X Retirements in 2010 X Post 2010	-0.0362 [0.161]	-0.0413 [0.160]	-0.0954 [0.168]
District-Bench and Year FE	Yes	Yes	Yes
Case Controls	No	Yes	Yes
District Controls	No	No	Yes
Observations	7,439	7,439	7,439
R-squared	0.056	0.063	0.064
Mean of dependent variable	0.50	0.50	0.50

- Robustness - Alternate specification 61
- Robustness - # of Judges Retiring before and after the reform 64
- Robustness - Anticipation of the reform 70

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Mechanisms

- 1 What kind of cases are driving the results?
- 2 Is there an improvement in the quality of judicial decisions?
- 3 Is there any evidence of spillover or peer effects?
- 4 What kind of judges are driving the results?

Impact of Selection Reform on State Wins

By Type of Case

	Constitutional Cases		Criminal Cases	
	(1)	(2)	(3)	(4)
<i>State Wins</i>				
Retirements in 2010 X Post 2010	-0.149* [0.0790]	-0.207** [0.0781]	0.0273 [0.203]	0.0240 [0.203]
District Bench and Year FE	Yes	Yes	Yes	Yes
Case and District Controls	No	Yes	No	Yes
Observations	5,362	5,362	2,077	2,077
R-squared	0.067	0.069	0.116	0.126
Mean of dependent variable	0.472	0.472	0.580	0.580

What is a land case?

The New York Times

Opinion

Your House Is My House, Pakistan's Rich Say to Its Poor

Property scams start from the top here, and cut across political divides.



By **Mohammed Hanif**

Mr. Hanif is a Pakistani novelist.

May 28, 2019



● Human Rights Case Example 44

What is a land case?

- “To Pakistanis struggling to keep a roof over their heads, **the government and the courts** can be positively hostile. In October, residents of Pakistan Quarters, a 70-year-old residential development in Karachi, were given just 10 days to leave their homes without any compensation by the **courts**.”
- “The **Pakistani courts are very generous with politically connected and government housing agencies** who build illegal mansions or luxury apartment buildings. Just last month in Islamabad, several thousand people were evicted from One Constitution Avenue, Islamabad to build a luxury hotel. The **court** regularized the construction. Prime Minister **Imran Khan** owns an apartment in the building.”

Is there an improvement in the quality of judicial decisions?

	(1)	(2)	(3)	(4)
	<i>Case Delay</i>	<i>Merit</i>	<i>Reversals</i>	<i>Process Followed</i>
Retirements in 2010 X Post 2010	-0.883** [0.385]	0.213*** [0.0402]	-0.018*** [0.0052]	0.407*** [0.127]
District-by-Year FE	Yes	Yes	Yes	Yes
Case and Bench Controls	Yes	Yes	Yes	Yes
Observations	8,446	8,446	8,446	8,446
R-squared	0.218	0.141	0.195	0.082
Mean of dependent variable	3.354	0.627	0.407	3.314

Is there an improvement in the quality of judicial decisions?

Some Anecdotes

- What makes a 'Bad' Decision?
 - “ruling on technicalities in Pakistan is the weapon of choice to rule unfairly” (Aziz, 2001)
 - “judges use decisions on technicalities to favour the state authorities” (Arshad, 2017)
 - “decisions on merits or evidence of the case are much less forthcoming in these politically motivated cases” (Haq, 2018)

Are lower pro-government rulings result of Corporate Capture?

	Small and Medium Firms		Large Corporations	
	(1)	(2)	(3)	(4)
<i>State Wins</i>				
Retirements in 2010 X Post 2010	-0.248*	-0.203	0.189*	0.237*
	[0.144]	[0.150]	[0.109]	[0.128]
District-by-Year FE	Yes	Yes	Yes	Yes
Case and Bench Controls	No	Yes	No	Yes
Observations	864	864	435	435
R-squared	0.434	0.450	0.594	0.626
Mean of dependent variable	0.466	0.466	0.462	0.462

Pandering to Islamist mobs on the street?

	Human-Rights Cases	Land Cases	Non-Islamic Case	Islamic Case
<i>State Wins</i>				
Retirements in 2010 X Post 2010	-0.229*** [0.0460]	-0.307*** [0.0471]	0.0600 [1.268]	0.0242 [0.188]
District-by-Year FE	Yes	Yes	Yes	Yes
Case and Bench Controls	Yes	Yes	Yes	Yes
Observations	3,428	2,650	2,146	222
R-squared	0.219	0.218	0.297	0.727
Mean of dependent variable	0.462	0.449	0.544	0.594

Is there any evidence for peer effects?

Impact of Selection Reform on Presidentially Appointed Judges

	(1)	(2)	(3)	(4)
	<i>State Wins</i>			
Retirements in 2010 X Post 2010	-0.0265 [0.0956]	0.0147 [0.104]	-0.0544 [0.107]	-0.0532 [0.106]
District Bench and Year FE	No	Yes	Yes	Yes
District Controls	No	No	Yes	Yes
Case Controls	No	No	No	Yes
Observations	6,390	6,390	6,390	6,390
R-squared	0.001	0.042	0.044	0.052
Mean of dependent variable	0.52	0.52	0.52	0.52

Mechanisms: Type of Judges

- What kind of judges are driving the results?
 - Do judge characteristics matter?
 - What are the key characteristics that distinguish the judges?

Selection Effects - I

Impact of Selection Reform on State Wins at the judge level

	<i>State Wins</i>			
	(1)	(2)	(3)	(4)
Post-Reform Judge	-0.160*** [0.0253]	-0.162*** [0.0284]	-0.162*** [0.0288]	-0.0224 [0.0476]
District Controls	No	Yes	Yes	Yes
Case Controls	No	No	Yes	Yes
Judge Controls	No	No	No	Yes
Observations	482	482	482	482
R-squared	0.093	0.102	0.109	0.145
Mean of dependent variable	0.483	0.483	0.483	0.483

Selection Effects - II

What are the key characteristics that distinguish the judges?

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Gender	Muslim	Former Judge	Former Lawyer	Punjabi Ethnicity	Sindhi Ethnicity	Balochi Ethnicity	Pashtun Ethnicity	Other Ethnicity	Off-Baloch Ethnicity
Post-Reform Judge	-0.0521* (0.0285)	-0.00232 (0.0105)	0.00386 (0.0315)	0.0106 (0.0301)	0.0127 (0.0115)	-0.00270 (0.00610)	0.00399 (0.0067)	-0.0004 (0.0097)	0.0162 (0.0142)	-0.0004 (0.0097)
Age Control	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Case Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Bench Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	8,446	8,446	8,446	8,446	8,446	8,446	8,446	8,446	8,446	8,446
R-squared	0.016	0.002	0.007	0.008	0.007	0.004	0.005	0.007	0.005	0.005
Mean of dependent variable	0.961	0.991	0.110	0.892	0.200	0.051	0.059	0.141	0.487	0.487

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- 6 Alternative Explanations
- 7 Mechanisms
- 8 Conclusion**

Policy Implications

- Judge Selection mattered for Pakistan
- External validity
 - Cautious
 - e.g. Nigeria, India, Bangladesh
- Potential to reform the judiciary
 - To reduce land expropriations

Conclusion - I

Justice Mirza - Appointed by Judges

Justice Khan - Appointed by President



Conclusion - II

- “... The Election Commission of Pakistan shall issue a notification disqualifying Mian Muhammad Nawaz Sharif from being a member of the Parliament with immediate effect, after which he shall cease to be the Prime Minister of Pakistan”

(The State vs Siraj-ul-Haq, 2017)

- 5/5 judges were selected under the new selection procedure

Headline from May 2018

PAKISTAN

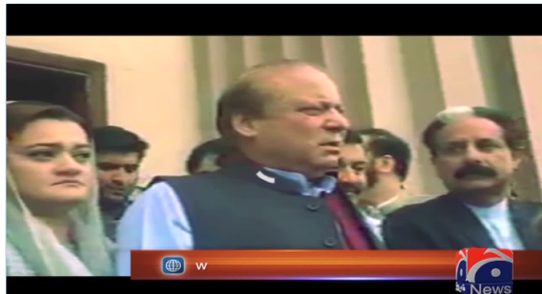
Monday May 07 2018



GEO NEWS



Will change process to appoint judges if re-elected: Nawaz



Thank You for Your Attention

- Twitter: **@mrsultan713**
- Email for more detailed questions/feedback: smehmood@nes.ru
- More information on my work:
<https://sites.google.com/view/sultan-mehmood/home>

9 Appendix: Robustness Checks

Why was the Judicial Selection Reform Adopted?

- Sudden assassination of Benazir Bhutto swept her party to power
- Pakistan Peoples Party tabled the constitutional amendment
- Parliamentary debates just before the reform gives us some clues
- The reform was introduced by the incoming democratic government after a decade of military rule to reduce the political authority of the President
- “the purpose of the change was to prevent abuses of power by future military rulers who ruled as Presidents” (Almeida, 2018)
- Back 10

Alternate Specification – Reduced Form with Post Treatment Interaction Term

	<i>State Wins</i>		
	(1)	(2)	(3)
	OLS		
Retirements at 62/Total Judges X Post Reform	-0.233* [0.115]	-0.211* [0.120]	-0.296*** [0.0978]
Retirements at 62/Total Judges	0.0338 [0.0606]	0.0192 [0.0600]	0.0255 [0.0517]
District and Year Fixed Effects	Yes	Yes	Yes
District Controls	No	Yes	Yes
Case Controls	No	No	Yes
Observations	7,439	7,439	7,439
R-squared	0.044	0.050	0.052
Mean of dependent variable	0.50	0.50	0.50

- Back 38

Falsification Test

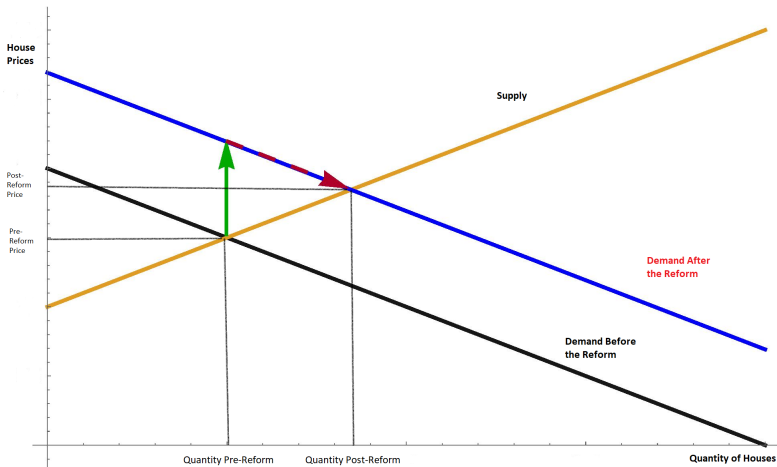
Are we picking up a pure appointment or retirement effect?

- Focus on Pre-Reform Data Only (1986-2009)

	OLS			
	(1)	(2)	(3)	(4)
	<i>State Wins</i>			
New Judges/Total Judges	-0.105 [0.0626]	-0.0248 [0.0531]		
Retirements at 62/Total Judges			0.00627 [0.0780]	0.0114 [0.0604]
District and Year Fixed Effects	Yes	Yes	Yes	Yes
District Controls	No	Yes	No	Yes
Case Controls	No	Yes	No	Yes
Observations	5,166	5,166	5,166	5,166
R-squared	0.024	0.037	0.024	0.037
Mean of dependent variable	0.54	0.54	0.54	0.54

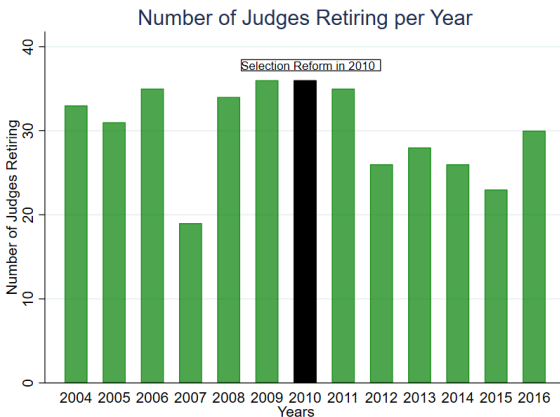
- Back 33

Selection Reform and House Prices



● Back ??

Number of Judges Retiring before and after Reform



● Back 38

Robustness within the Democratic Period

VARIABLES	<i>Least Squares</i>		IV, 2 nd Stage	
	(1)	(2)	(3)	(4)
	<i>State Wins (2009-2016)</i>			
Commission Judges/Total Judges	-0.338* [0.183]	-0.276 [0.201]	-0.481** [0.207]	-0.412* [0.231]
District Fixed Effects	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes
District Controls	No	Yes	No	Yes
Case Controls	No	Yes	No	Yes
Observations	2,563	2,563	2,563	2,563
R-squared	0.096	0.100	0.095	0.100

Robustness to Non-Linear Models

	Logit Marginal Effects		Probit Marginal Effects	
	(1)	(2)	(3)	(4)
VARIABLES	<i>State Wins</i>			
Commission Judges/Total Judges	-0.287** [0.116]	-0.329*** [0.109]	-0.283** [0.115]	-0.322*** [0.108]
District Fixed Effects	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes
District Controls	No	Yes	No	Yes
Case Controls	No	Yes	No	Yes
Observations	7,439	7,439	7,439	7,439
R-squared (Pseudo)	0.032	0.038	0.050	0.047
Mean of dependent variable	0.50	0.50	0.50	0.50

Robustness to Different Levels of Clustering

VARIABLES	IV, 2 nd Stage			
	Before-After Clustering		District-Year Clustering	
	(1)	(2)	(3)	(4)
	<i>State Wins</i>			
Commission Judges/Total Judges	-0.311** [0.133]	-0.373*** [0.113]	-0.311*** [0.112]	-0.373*** [0.107]
District Fixed Effects	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes
District Controls	No	Yes	No	Yes
Case Controls	No	Yes	No	Yes
Observations	7,439	7,439	7,439	7,439
R-squared	0.044	0.052	0.044	0.052
Mean of dependent variable	0.50	0.50	0.50	0.50

Robustness to District-Year Aggregation

	<i>Least Squares</i>		<i>IV, 2nd Stage</i>	
VARIABLES	(1)	(2)	(3)	(4)
	<i>State Wins</i>			
Commission Judges/Total Judges	-0.298*** [0.0899]	-0.331*** [0.111]	-0.357* [0.188]	-0.474*** [0.160]
District Fixed Effects	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes
District Controls	No	Yes	No	Yes
Case Controls	No	Yes	No	Yes
Observations	496	496	496	496
R-squared	0.203	0.241	0.203	0.240

Check for Balance at the Case-Judge Level

Are cases randomly assigned to judges?

Panel A: Case Level								
	(1) Constitutional Case	(2) Criminal Case	(3) No. of Pages	(4) CJ on Case	(5) No. Lawyers on Case	(6) No. Judges on Case	(7) Population	(8) Population Density
After Reform Judge	0.004 [0.005]	0.003 [0.004]	0.211 [0.281]	-0.005 [0.016]	0.116 [0.252]	-0.035 [0.041]	-22,208* [12,497]	13.780 [8.765]
District and Year FE Controls	Yes Yes	Yes Yes	Yes Yes	Yes Yes	Yes Yes	Yes Yes	Yes Yes	Yes Yes
Observations	7,439	7,439	7,439	7,439	7,439	7,439	7,439	7,439
R-squared	0.099	0.092	0.246	0.017	0.057	0.072	0.995	0.995
Panel B: Judge Level								
	(1) Constitutional Case	(2) Criminal Case	(3) No. of Pages	(4) CJ on Case	(5) No. Lawyers on Case	(6) No. Judges on Case	(7) Population	(8) Population Density
After Reform Judge	0.00482 [0.00352]	0.00291 [0.00353]	-1.692 [0.912]	-0.00675 [0.0148]	-0.296 [0.291]	-0.206 [0.511]	-150,535 [229,321]	68.982 [164.34]
Age Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Case & District Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	482	482	482	482	482	482	482	482
R-squared	0.090	0.091	0.301	0.026	0.080	0.145	0.219	0.037

Was the reform anticipated by the litigants?

VARIABLES	2SLS, 2 nd Stage		
	Total Filed	Constitutional Filed	Criminal Filed
Commission Judges/Total Judges	-1,665 [1,286]	-1,141 [926.8]	-524.1 [387.0]
District and Year Fixed Effects	Yes	Yes	Yes
District and Case Controls	Yes	Yes	Yes
Observations	448	448	448
R-squared	0.095	0.094	0.090
Mean of dependent variable	9557.09	6878.49	2678.59

- Back 38

Army and the Courts

The Raymond David Saga

“(ISI Chief) General Pasha sat in the back of the courtroom, his cellphone out. He began sending out a stream of nervous text messages to (US) Ambassador Munter, updating him about the court proceedings. Pasha was one of the most powerful men in Pakistan, and yet the I.S.I. had little control over the mercurial courts in Lahore, and he wasn't entirely sure what would happen.”

Mark Mazzetti (2014) in *The Way of the Knife: The CIA, a Secret Army, and a War at the Ends of the Earth*

(Mehmood and Ali, 2022)

- Judiciary traditionally performs a crucial check on governments (Montesquieu, 1748; Madison, Hamilton and Jay, 1788)
- Yet, in many countries, including consolidated democracies, judiciaries seem to be abdicating their role as a check on executive power (Nalepa et al., 2018)
- One reason:
 - Judicial Capture by the Government
 - This may limit political accountability, retard economic growth and even foster the rise of autocracies (La Porta et al., 2004; Behrer et al., 2019)

Related Literature and Research Questions

- The recent literature on patronage in bureaucracies documents that government doles out favors to state officials in many developing countries (Fujiwara and Wantchekon, 2013; Finan et al., 2017; Bandiera et al., 2020; Xu, 2018; Callen et al., 2020; Colonnelli et al., 2020).
- But these works leave two critical questions open:
 - ① Is the suspect patronage really gift exchange, rather than an off-wage compensation that does not result in an exchange of favors?
 - ② How judicial capture operates?
- What are the costs and benefits of this exchange?
 - How much it costs the government?
 - How much it gains?

Summary of the Main Results

- We trace full transaction of gift-exchange between the government and judiciary
- Pakistani government allocating houses to judges under the “Prime Minister’s Assistance Package” and judges responding by giving pro-government rulings
- House allocation induces **pro-government rulings**
- Quid pro quo gift exchange:
 - Effect is only seen for cases involving the Federal government, Largest effect when Prime Minister or his cabinet is involved
- Costs and Benefits to the Government:
 - Cost to government: 0.02% of GDP in total
 - Benefit to government: 0.05% of GDP every year

How to Measure Government Victories?

- The State vs the Citizen
- The key outcome variable is State Wins which takes the value of 1 if government obtains a victory and 0 if the citizen obtains a victory
- The State is all organs of the State that yields executive power a la Montesquieu (1748)
- Specifically, it is the local, provincial, federal government
- State Wins is measured in two ways:
 - We ask a law firm to code state victories as 1 and state losses as 0
 - Cross check result with “Petition against the State dismissed” and “Petition against the State accepted” markers

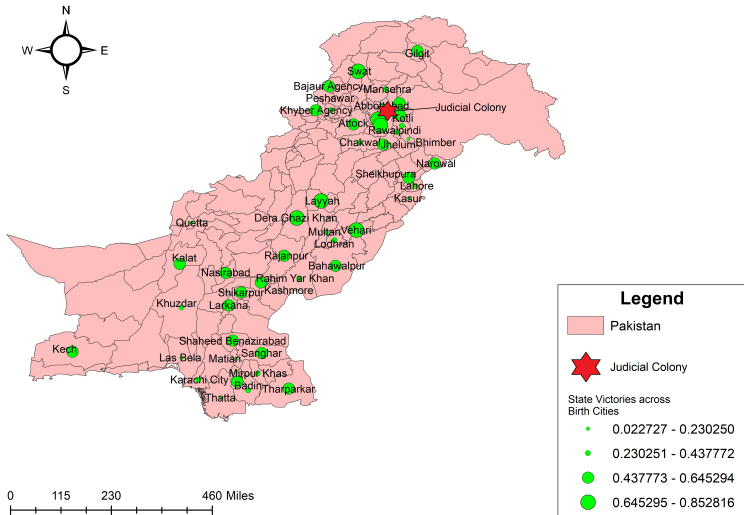
Data and Identification Challenge

- We exploit unique data on:
 - Names of all judges who received houses by the Federal government
 - Link judges who received houses with their corresponding judicial decisions
- Identification Challenge:
 - House allocation by the government may be made strategically
 - For instance, government may allocate houses to judges who are particularly anti-government to begin with (Siddique, 2013; Arshad, 2017).

Context

- There was high demand and fixed supply of houses
- Government allocated houses according to “distance from birth domicile” of judges
- Judges born near the Judicial Colony were more likely to receive houses than those born farther away

City of Birth and State Wins



Empirical Methodology

$$Y_{jt} = \beta_0 + \beta (\text{Distance from Judicial Colony}_{city} X \text{HouseAllocationOn}_t) + \delta_j + \gamma_t + \lambda \mathbf{W}_{jt} + \epsilon_{jt} \quad (2)$$

- Y represents average State Wins for the judge
- \mathbf{W} is a vector of case and judge characteristics controls
- Standard errors are clustered at city-of-birth level
- β gives the effect of house allocation on government victories due to the rule of thumb

Effect of House Allocation On State Wins

	(1)	(2)	(3)	(4)
	<i>State Wins</i>			
<i>House Allocation On X Dist. To JC</i>	-0.285*** [0.0625]	-0.265*** [0.0642]	-0.301*** [0.0620]	-0.275*** [0.0620]
Judge and Year Fixed Effects	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes
Case Characteristics X Dist. To JC	No	Yes	No	Yes
Judge Characteristics X Dist. To JC	No	No	Yes	Yes
Case Characteristics X Allocation On	No	Yes	No	Yes
Judge Characteristics X Allocation On	No	No	Yes	Yes
Observations	936	936	936	936
Number of Clusters	51	51	51	51
R-squared	0.328	0.353	0.329	0.354
Mean Dep. Variable	0.447	0.447	0.447	0.447

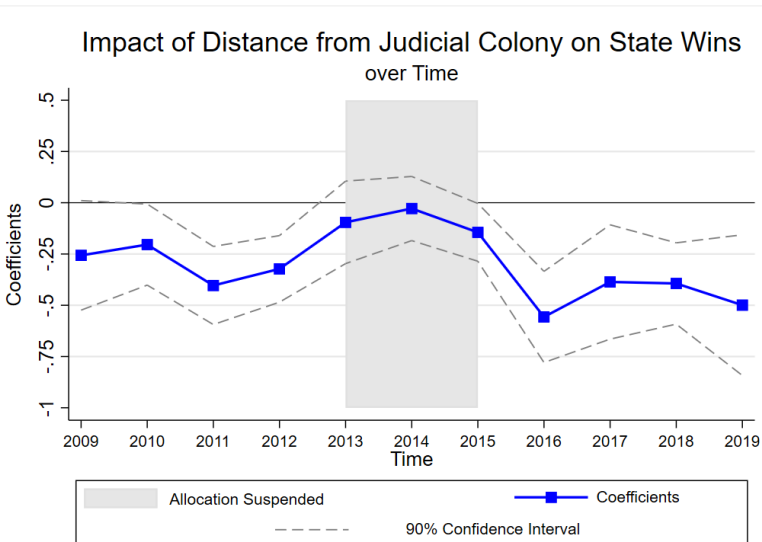
$$Y_{jt} = \beta_0 + \sum_s^{2019} \beta_s (\text{Distance from Judicial Colony}_{city} \times \theta_s) + \delta_j + \gamma_t + \lambda \mathbf{W}_{jt} + \epsilon_{jt} \quad (3)$$

- Subscript j , c & t indexes judges, cities & years, respectively
- Y represents average State Wins
- The **Distance from Judicial Colony** is interacted by year-by-year dummies
- W is a vector of time-varying controls
- Standard errors are clustered at city-of-birth level
- β gives the effect of rule-of-thumb, with same judges at times when house allocation was and was not operating

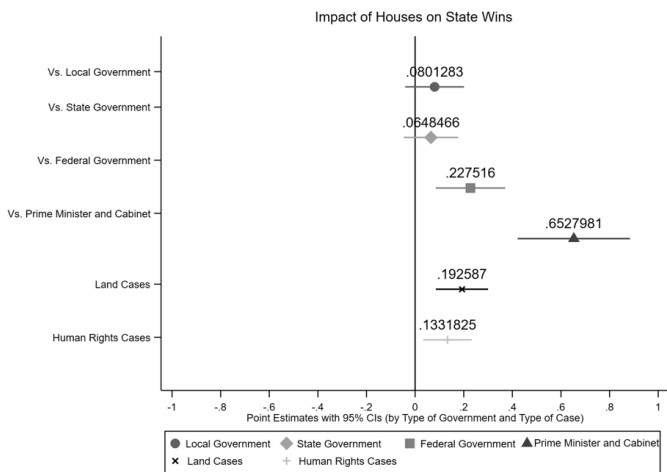
Who are the Compliers in our case?

	(1)	(2)	(3)	(4)
		<i>State Wins</i>		
House Allocation On X Dist. To JC	-0.00494 [0.169]	0.0226 [0.164]	-0.363*** [0.0354]	-0.365*** [0.0354]
Judge and Year Fixed Effects	Yes	Yes	Yes	Yes
Controls	No	Yes	No	Yes
Judge Received the House Before 2013	Yes	Yes	No	No
	<i>Never-Takers</i>		<i>Compliers</i>	
Observations	313	313	623	623
R-squared	0.357	0.375	0.342	0.347
Mean Dep. Variable	0.50	0.50	0.42	0.42

Event Study Graph



Gift Exchange



- Allotment of houses to judges induces gift-exchange between the Judiciary and the Government
- Largest effects observed in cases squarely involving the Prime Minister and her cabinet
- It costed the government 0.02% of GDP to buy all the houses for judges, yet it allowed it to expropriate additional land worth 0.05 % of GDP every year.

Training Effective Altruism

Sultan Mehmood¹, Daniel Chen² and Shaheen Naseer³

Empirical Public Economics

Spring 2022

¹New Economics School Moscow

²Toulouse School of Economics

³Lahore School of Economics

Motivation and Research Question

- Prosociality or the behavior that benefits others is critical in decision-making
- It affects a wide range of decisions—public goods provision, contract enforcement, management of commons, government efficiency
- But this gives rise to a critical policy question:

How to optimally train prosocial behavior?

Motivation

- We focus on a particular soft skill; Perspective-taking, “putting yourself in someone else’s shoes”
- Psychologists call this “Theory of Mind”
- Economists call this “Degree of Strategic Reasoning”
- Reduce coordination costs in teams and organizations

This Paper

- We horse race different schools of thought associated with cultivating prosocial behavior
 - Peter Singer Dweck's Effective Altruism - Emphasizing benefits of prosociality induces prosocial behavior
 - Carol Dweck's Malleability of Self - Emphasizing malleability of self induces prosocial behavior
- Training in the benefits of soft skills - empathy in particular - increases prosocial behavior in the lab and the field
 - No effect of Malleability training
 - Use of "we versus I" and "us versus them" doubled on social media (only for U)
 - A shift in policy (only for U)

The Context

- Advisors to the President, Prime Minister, cabinet ministers, governors and police chiefs
- Recent Survey from Civil Service Academy finds 70% successful candidates stated they joined the “public service due to power and prestige rather than public service”
- Intensive soft skills training workshop to Deputy Ministers from all over Pakistan (ACs, DCs, Probationaries etc)

Preview of Results

- First what we find is, training Deputy Ministers in benefits of empathy impact their altruism
 - 1 Cooperation, and theory of mind in strategic dilemmas also increased (**soft skills**)
 - 2 Blood donations, only when blood type is told (**effective altruism**)
 - 3 Regular Budgetary requests sent to the Finance Ministry (we note who sent letters for implementing school and orphanage renovations)
 - 4 Policy impact of the training is measured at extensive margin (letter sent or not) and intensive margin (how much public funds requested)

Related Literature

- The paper speaks to several strands of the literature:
 - First, we show that theory of mind (Nagel, 1995, AER) can be altered in adults
 - Second, we speak to the literature on soft skills, which labor economists recognize as explaining large puzzles in the labor market over the last half-century (Autor, 2015; Deming 2017)
 - Last but not the least, we speak to the literature on personnel economics of the state and bureaucracies in weakly institutionalized settings (Finan et al., 2017; Gulzar and Khan, 2021)

Contributions

The key contributions of this paper are:

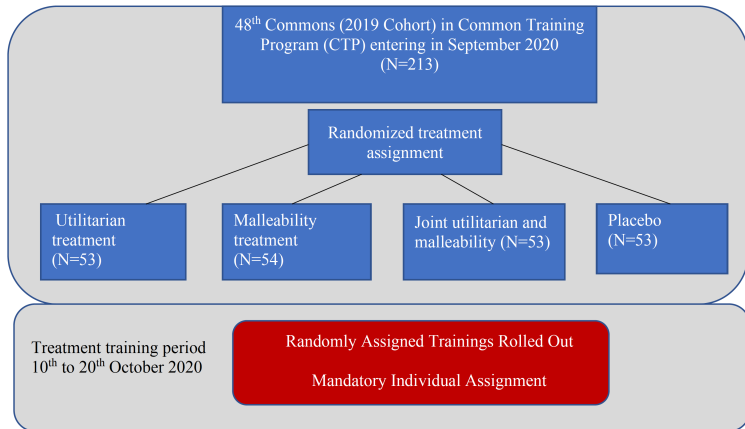
- ① We show how soft skills can be cultivated and are not fixed
- ② A few randomized control trials find medium- to long-term effects of training interventions (Heckman et al. 2013; Falk et al., 2020; Alan et al., 2021; Cappelen et al. 2020) but we show even in adults soft-skills may be fostered
- ③ This is consistent with evidence from neuroscience that adult brain continues to be “plastic” (Duffau, 2014, Nature)

Effective altruism could be a parsimonious foundation for formation of prosociality

Roadmap

- 1 Experimental set-up
- 2 Experiment stages
- 3 Empirical Specification
- 4 Mechanisms
- 5 Results
- 6 Appendix (Robustness check)

Experimental Set-up

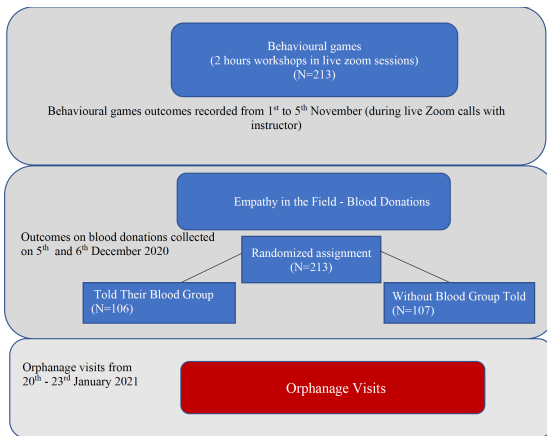


Experiment set-up

Participants were divided into four 3 month workshops treatment groups

- ① Utilitarian Treatment
 - Describe the private benefits of empathy (firm profit, google empathy lab)
- ② Malleability Treatment
 - Describe, empathy is not fixed but malleable
- ③ Utilitarian and Malleability Treatment
- ④ Economics Lecture (Placebo)

Experiment Measurement: Main Stages



Experiment Measurement: Main stages

- ① After 2 weeks of intervention
 - Played 11 behavioral games (Heroku link in live zoom session) Elicit Book choice (Empathy or Econometrics)
- ② After one month of intervention
 - Blood donations requests from a prominent blood bank
 - Blood for group O negative is urgently needed at the blood bank **vs** Blood is urgently needed at the blood bank
- ③ After four months of intervention
 - Orphanage field trip/field site of senior bureaucrat
 - Public Sector Management grades – Conflict management, negotiation, leadership, rule of law, preventing corruption
- ④ After 1 year of intervention
 - Regular Budgetary requests sent to the Finance Ministry

Empirical Specification

$$Y_i = \alpha + \beta U_i + \gamma M_i + \delta UM_i + \epsilon_i \quad (1)$$

- We cluster standard errors at the individual level
- β , measures the effect of stand-alone utilitarian treatment
- γ , the effect of stand-alone malleability treatment
- δ , the effect of the joint treatment.

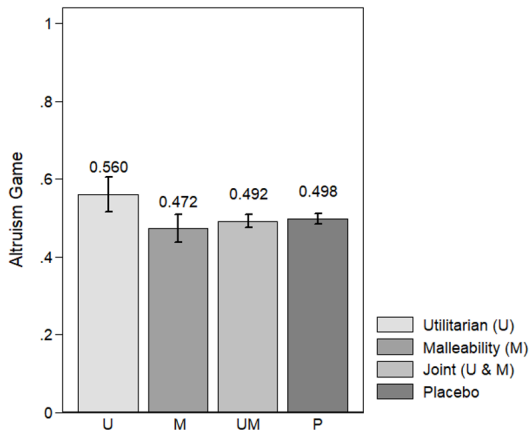
Specification

Bar charts report the main results (show raw data)

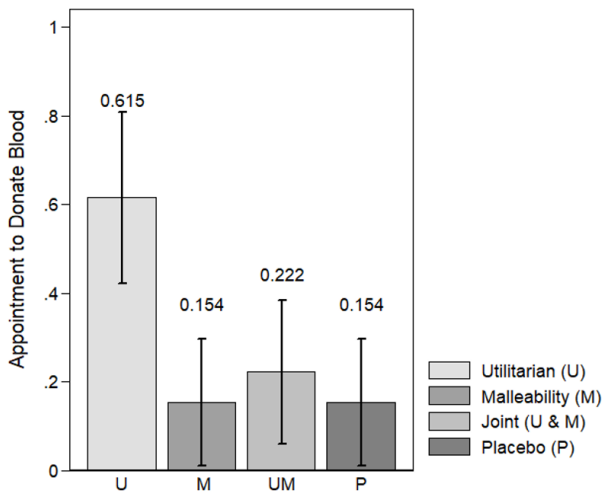
Regressions add all controls available from administrative data.

- Ability (written and interview test scores)
- Demographics (gender, income, age, years of education)
- Birth in political capitals, asset ownership, foreign visits and occupational designations
- Essentially identical results

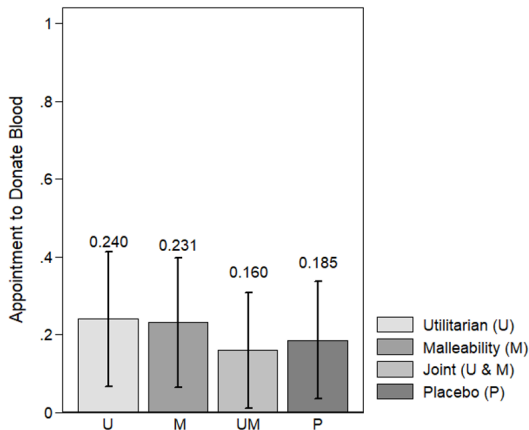
Lab-in-the-Field: Utilitarian training impacted Altruism



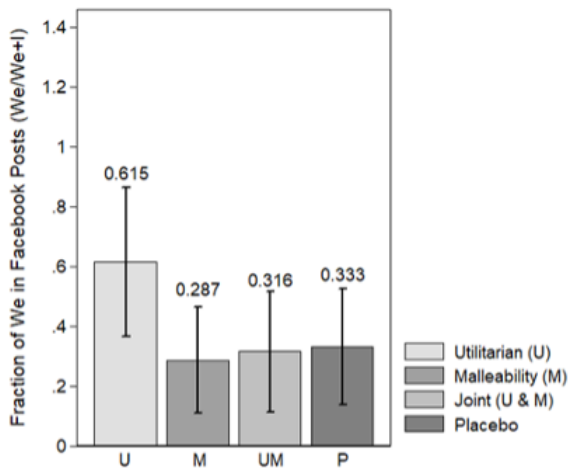
Field Measure I: Effective Altruism - Exact Blood Group Request Made



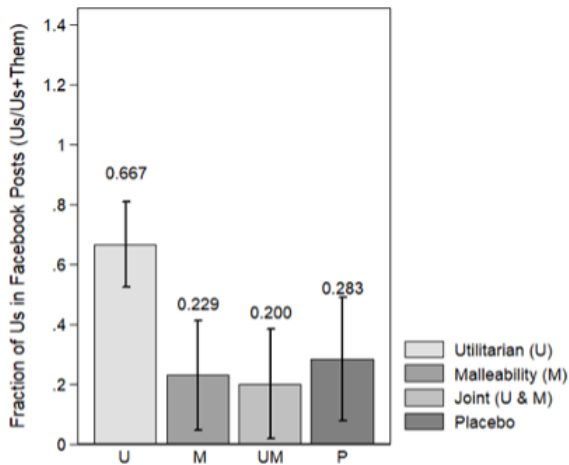
Effective Altruism - Generic Blood Group Request Made



Field Measure II: Social Media Feeds (“We” vs. “I”)



Social Media Feeds (“Us” vs. “Them”)



Field Measure III - Impact on Policy after 12 Months

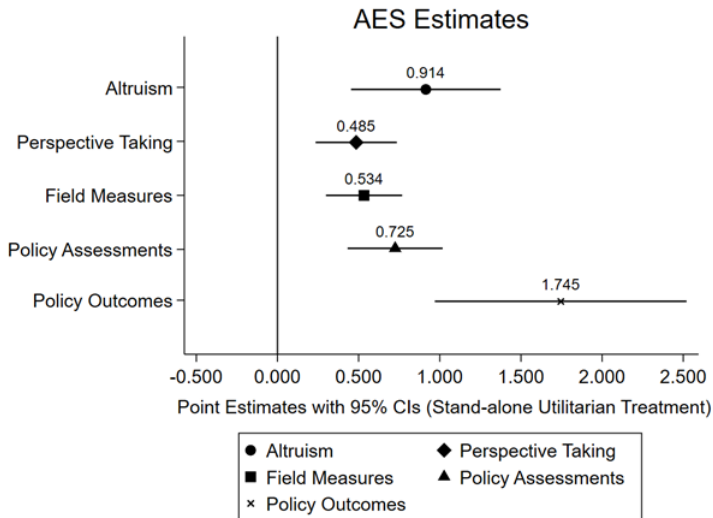
The Utilitarian training impacts their official duties

	<i>Orphanage Renovation Policy</i>		<i>School Renovation Policy</i>	
	Letter Sent	Funds Requested (PKR)	Letter Sent	Funds Requested (PKR)
	(1)	(2)	(3)	(4)
U	0.315*** (0.0729)	78,923** (30,781)	0.390*** (0.0862)	74,679*** (28,484)
M	0.0655 (0.0516)	20,838 (22,959)	-0.0326 (0.0709)	15,496 (12,487)
UM	0.119** (0.0578)	28,611 (22,006)	-0.00905 (0.0703)	24,684 (17,033)
Individual Controls	Yes	Yes	Yes	Yes
Observations	213	213	213	213
R-squared	0.181	0.105	0.235	0.149
Mean of dep. var. (placebo)	0.194	57625	0.275	45625

Mechanisms

	<i>Cooperation Game</i>		<i>Coordination Game</i>		<i>Guessing Game</i>	
	(1)	(2)	(3)	(4)	(5)	(6)
Stand-alone Utilitarian (U)	0.438** (0.198)	0.374** (0.187)	0.482** (0.203)	0.405* (0.214)	0.628*** (0.211)	0.616*** (0.217)
Stand-alone Malleability (M)	0.129 (0.174)	0.118 (0.177)	0.132 (0.181)	0.108 (0.190)	-0.189 (0.183)	-0.180 (0.182)
Joint Treatment (UM)	0.174 (0.174)	0.123 (0.192)	0.074 (0.207)	0.063 (0.204)	-0.013 (0.169)	-0.042 (0.179)
Individual Controls	No	Yes	No	Yes	No	Yes
Observations	213	213	213	213	213	213
Mean of dep. var. (placebo)	-0.185	-0.185	-0.172	-0.172	-0.049	-0.049
p -value (test: $U = UM$)	0.210	0.246	0.045**	0.088	0.001**	0.002**
p -value (test: $M = UM$)	0.810	0.983	0.748	0.803	0.264	0.405
p -value (test: $U = M$)	0.142	0.216	0.048**	0.093	0.000**	0.000**
p -value (test: $UM = U + M$)	0.151	0.173	0.048**	0.117	0.087	0.083

Summary of Main Results



Conclusion

- Can prosociality be cultivated in adults?
- Almost no randomized control trials to train prosociality effectively, especially in adults (most work on children a la Heckman et al. 2013)
- We find large effects of emphasizing benefits of empathy (Singer)
- No Effect of emphasizing the malleability of the self (Dweck)
- Significant effect of a cheap and potentially scalable intervention that impacts lab (strategic dilemmas) and field behavior (blood donations and public policy)
- We show that empathy can be enhanced even among adults, which is consistent with evidence that the adult brain continues to be plastic (Duffau, 2014, Nature)

Training Policymakers in Econometrics

IOEA Workshop 2022

Judicial Independence, State Capacity and Development

23 May 2022

Motivation

- Over the last half century Economics has gone through a paradigm shift (Angrist and Pischke 2010)
 - The Credibility Revolution
 - 2019, 2021 Nobel Prizes
 - But it is an 'old' idea of "taking the con out of econometrics" (Leamer 1983)
- Broadly speaking, the credibility revolution focuses on:
 - 1 Causality
 - 2 Policy
- This makes it extremely relevant for policymakers

The Problem

- But the practitioners or policymakers may not respond to evidence.
- A large body of literature finds that policymakers are highly averse to shifting their beliefs and policy (Baekgaard et al. 2019; Banuri et al. 2019; Vivalt and Coville 2021; Bell and Toma 2021)
- Sticking to priors and being inattentive to evidence may stymie the implementation of good policies and hurt economic development (Kremer, Rao, Schilbach 2019)

Research Questions

- How can we make policymakers more receptive to evidence?
 - Will training them in concepts associated with the credibility revolution make them more likely to shift their beliefs?
 - Will it induce them to change their actual policy choices?

The Context

- Deputy Ministers of Pakistan
 - Policy experts who advice the Prime Minister and her Cabinet
 - “key wheels on which the entire engine of the state runs” (Federal Government of Pakistan, 2019)
- Chosen via a competitive examination:
 - About 200 are chosen from 15, 000 exam takers annually
 - Pass rate is about 1%
- We collaborate with the Federal Government of Pakistan and an elite training Academy that trains these policymakers to conduct a field experiment with deputy ministers
- Conduct a intensive 4-week training where we aim to maximize the comprehension, retention, and utilization of the educational materials
- All the workshops are high-stakes since they count toward their future career trajectories (transfers and promotions)

This Paper - Overview

- Training deputy ministers in econometrics impacts
 - ① **Attitudes** on importance of evidence
 - ② **Willingness-to-Pay** for evidence
 - ③ **Policy** decisions

This Paper - Magnitudes

- **Attitudes:**

- 50% **increase** in importance of quantitative evidence
- **No change** in importance of qualitative evidence

- **Stated Willingness-to-Pay:**

- WTP for RCT Evidence **increases** by 300%
- WTP for Correlational Evidence **decreases** by 50%

- **Actual Policy:**

- Letters sent to Finance Ministry recommending policy with RCT evidence **doubles**
- Amount of funding recommended **triples**
- **No effect** on policies for which no RCT evidence was provided

Related Literature and Contributions

• Paradigm Shifts

- Pivots the literature on how and why paradigm shifts occur in science to study its consequences (Kuhn 1962, Shapin 1982, Merton 1973; Foucault 1970)
 - Study the causal effects of a paradigm shift using a field experiment

• Economics and Financial Literacy

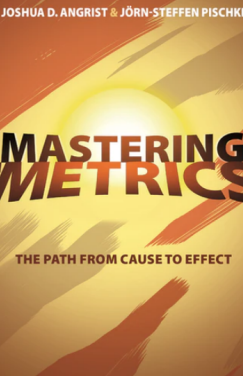
- Adds to the literature on economics and financial literacy (Cole et al., 2011, Lusardi et al., 2017, Sutter et al. 2020, Ash et al 2021).
 - Study the impact of econometrics literacy training on attitudes and policy

• Behavioral Economics of Development

- Policymakers do not appreciate evidence due to many behavioral factors (Baekgaard et al. 2019; Banuri et al. 2019; Vivalt and Coville 2021; Bell and Toma 2021)
 - How training policymakers in modern econometrics may alleviate some of these biases

Roadmap

- 1 Background
- 2 Data
- 3 Empirical Specification
- 4 Results
- 5 Conclusion
- 6 Appendix: Robustness Checks



JOSHUA D. ANGRIST & JÖRN-STEFFEN PISCHKE

MASTERING *METRICS*

THE PATH FROM CAUSE TO EFFECT

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Placebo Training

"In his new, wise, and utterly approachable book, Dr. Siegel uses beautiful and often remarkable case histories to show us how we can change our minds, brains, relationships, and even the course of certain mental illnesses."
—NORMAN DOIDGE, M.D., author of *The Brain That Changes Itself*



THE NEW SCIENCE OF
PERSONAL TRANSFORMATION

Daniel J. Siegel, M.D.

Foreword by DANIEL GOLEMAN, author of *Emotional Intelligence*

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3 Leaving the Ether Dome: Where is the Mind? 45

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4 The Complexity Choir: Discovering the Harmony of Health 64

Intervention Details

- Ministers are randomly assigned to a metrics or a placebo workshop
 - Treated group: Mastering Metrics by Josh Angrist and Steve Pischke.
 - Placebo self-help book training: Mindsight by Daniel Siegel
- The ministers:
 - Write 1500 word essays summarising each chapter of the book
 - Another 1500 word essay on how they would apply the book's concepts in their policymaking
 - This is based on on recent scholarship on socio-emotional learning (Yeager et al., 2019, Nature)
 - These essays or assignments are rated in a competitive manner with cash awards and commemorative shields for top performers
 - Presentation of books' lessons within the treatment arm
 - Structured discussion within the treatment arm

Commemorative Shields and Vouchers

Panel A: Commemorative Shield



Note: The figure shows one of the commemorative shields presented to the deputy ministers.

Panel B: Gift Vouchers



Note: The figure shows cash gift vouchers at a luxury departmental store. The monetary amount is designated in Pakistan Rupees. The vouchers for the first three positions within each treatment arm are worth about USD 150, USD 100 and USD 80, respectively.

The Data

- The Training Academy Course Records
- The Federal Public Service Commission (FPSC)
- Own Surveys and Academy's Policy Simulations
- Ministry of Finance
- Sample of 190 Deputy Ministers out of 213 participated

OLS Estimation

$$Y_i = \theta + \alpha \text{Metrics Assigned}_i + \mathbf{W}'_i \psi + \epsilon_i \quad (1)$$

- Subscript i is an individual deputy minister
- Y represents the respective outcome
- \mathbf{W} is a vector of individual characteristics including choice of metrics book
- Clustering is done at the individual level
- α gives the causal impact of metrics training

Partial and Full Metrics Training - Legend for Figures

- Partial Training = Pre Lecture
 - Write a short summary of each chapter of the book
 - Write how the book's concepts could apply to your policymaking
- Full Training = Post Lecture
 - Video Lectures by authors: Josha Angrist and Daniel Siegelman
 - Structured discussion: "what are the key lessons?" "how will you apply these concepts in your career"
 - Presentation of the main lessons of the book
- Assignments and presentations were rated in a competitive manner with cash awards and commemorative shields awarded to top performers

Balance

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	Birth in political capitals	Income	Age	Education	Visited Foreign Country	PAS	PSP	Other groups	Pre- Treatment Written Assessment	Pre- Treatment Interview Assessment	Pre-Treatment Mathematics Assessment
Metrics Assigned	0.0528 (0.0902)	-7,327 (4,601)	0.212 (0.395)	0.104 (0.0873)	-0.00229 (0.0712)	-0.0130 (0.0438)	-0.0549 (0.0348)	0.0235 (0.0570)	0.960 (5.049)	2.208 (3.091)	0.0627 (0.218)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	190	190	190	190	190	190	190	190	190	190	190
R-squared	0.047	0.165	0.253	0.225	0.070	0.630	0.453	0.645	0.484	0.227	0.017
Mean of dependent variable	0.324	34258.26	26.775	0.516	0.225	0.169	0.099	0.610	655.585	131.085	7.221

Attrition

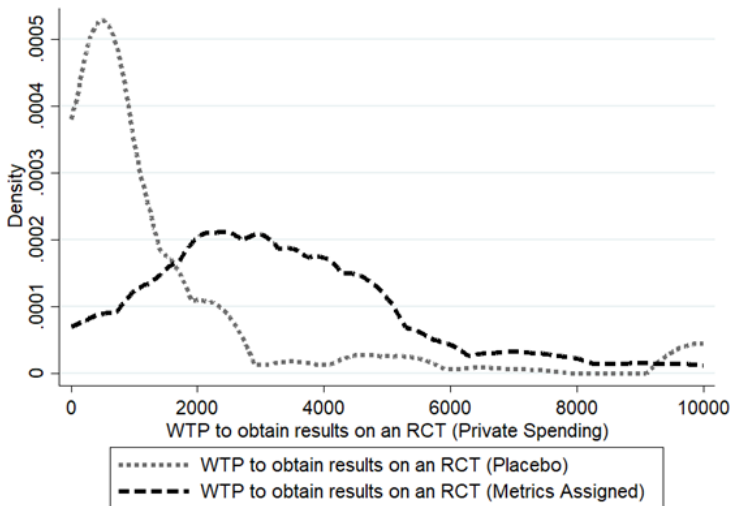
	<i>Attrition in Sample 1</i>		<i>Attrition in Sample 2</i>	
	(1)	(2)	(3)	(4)
Metrics Assigned	-0.058 (0.045)	-0.053 (0.047)	0.001 (0.031)	0.008 (0.035)
Individual Controls	No	Yes	No	Yes
Observations	213	213	213	213
R-squared	0.01	0.09	0.014	0.052
Mean of dep. var. (placebo)	0.091	0.091	0.06	0.06

Results I - Policy Attitudes - Original Units

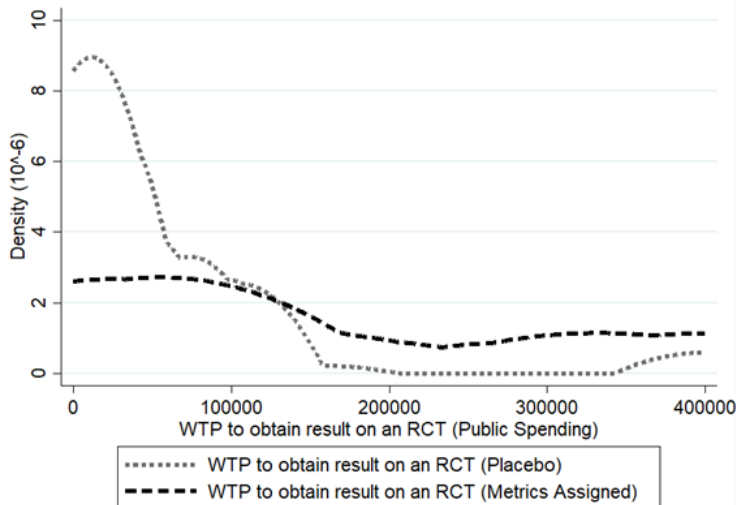
	Pre-Lecture Rating Quantitative	Post-Lecture Rating Quantitative	Pre-Lecture Rating Qualitative	Post Lecture Rating Qualitative	Pre-Lecture Run RCT	Post-Lecture Run RCT	Pre-Lecture Why Run RCT	Post-Lecture Why Run RCT
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Metrics Assigned	0.912*** (0.176)	1.538*** (0.178)	0.136 (0.196)	0.122 (0.206)	0.167** (0.082)	0.220** (0.085)	0.151* (0.087)	0.153* (0.087)
Individual Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	190	190	190	190	190	190	190	190
Mean of dep. var. (placebo)	2.745	2.979	2.490	2.596	0.362	0.404	0.396	0.396



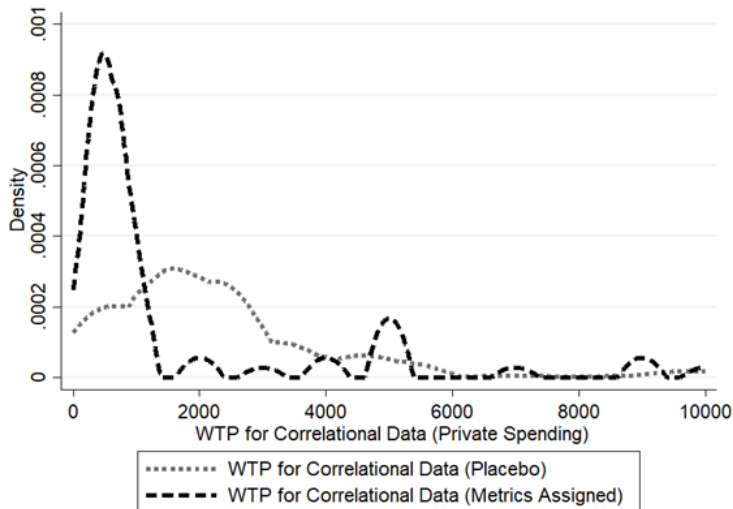
Results II - Willingness-to-Pay for RCTs - Private



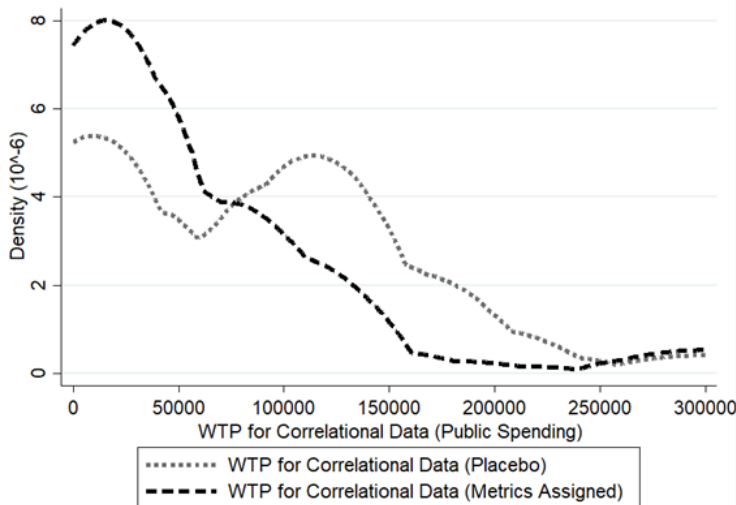
Results III - Willingness-to-Pay for RCTs - Public



Results IV - Willingness-to-Pay for Correlations - Private

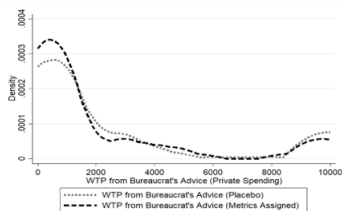


Results V - Willingness-to-Pay for Correlations - Public

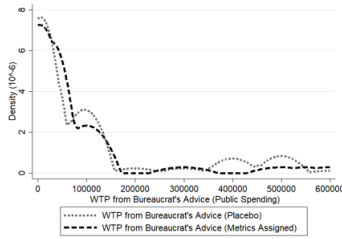


Results VI - Willingness-to-Pay for Bureaucrat Advice

Panel A: Private Spending



Panel B: Public Spending



Results VII - Willingness-to-Pay - Summarized

	<i>Private Spending</i>			<i>Public Spending</i>		
	Amount Randomized Trial	Amount Correlational Data	Amount Expert Bureaucrat	Amount Randomized Trial	Amount Correlational Data	Amount Expert Bureaucrat
	(1)	(2)	(3)	(4)	(5)	(6)
Metrics Assigned	2,063*** (587.5)	-1,020*** (340.4)	-1,986 (1,390)	1391308** (665,160)	-35,274*** (13,033)	-2,048 (34,090)
Individual Controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	180	180	180	180	180	180
R-squared	0.217	0.202	0.104	0.094	0.217	0.202
Mean of dep. var. (placebo)	1539.453	2214.07	4490.008	928546.1	94136.72	115937.5

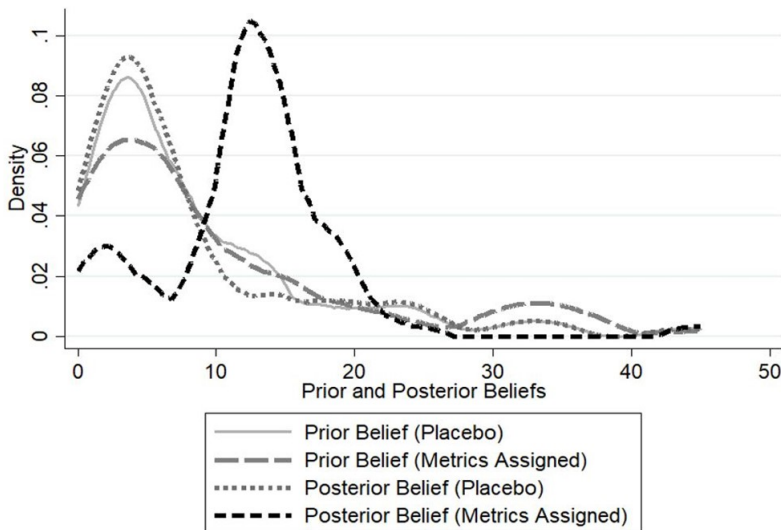
Prior and Posterior Beliefs on the Impact of Deworming

- We then collect prior and post-signal beliefs on the impact of a prominent policy that was to be rolled out by Government of Pakistan in the next fiscal year
 - Deworming in Schools
- We then reveal a “signal” on the causal impact of Deworming in Schools on Long Run Incomes

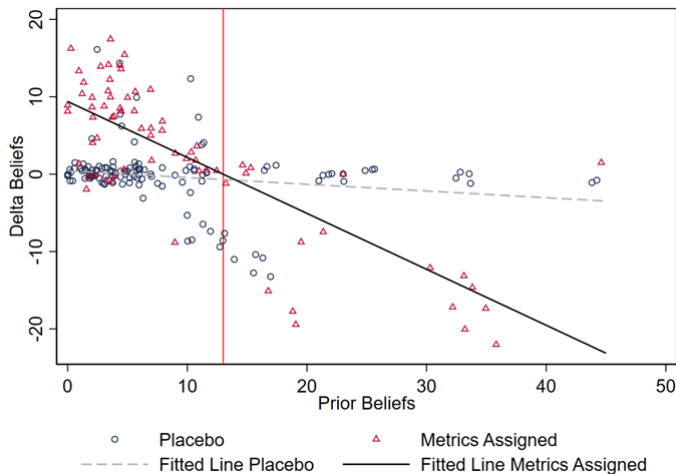
The Signal

Recent randomized evaluation finds deworming impacts on economic outcomes up to 20 years later. Individuals who received deworming experience up to 3 additional years of schooling, 14% increases in consumption expenditure, 13% increases in hourly earnings, 9% in non-agricultural work hours (Source: PNAS, 2021).

Initial and Post-Signal Beliefs on Deworming's Impact



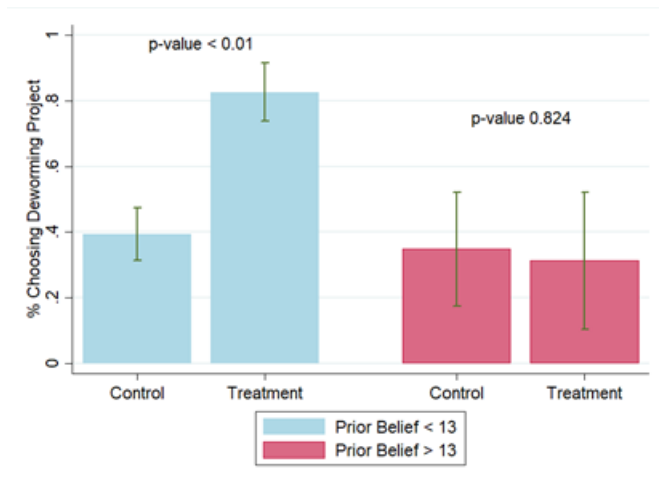
Initial and Shifts in Beliefs



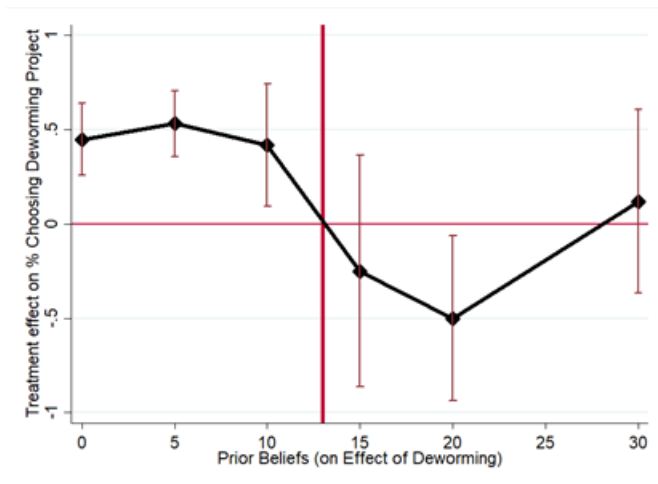
Policy Choice facing Deputy Ministers

- Policy Choice
 - Deworming Policy in Schools
 - Computer Labs Policy in Schools

Impact on Stated Policy Choice - I



Impact on Stated Policy Choice - II



Impact on Policy

What about deputy ministers' policy responses in their official duties?

Impact on Actual Policy - Extensive and Intensive Margin

Recommendations made to the Ministry of Finance

	<i>Deworming Policy</i>		<i>Orphanage Renovation Policy</i>		<i>School Renovation Policy</i>	
	<i>Letter Sent</i>	<i>Funds Recommended</i>	<i>Letter Sent</i>	<i>Funds Recommended</i>	<i>Letter Sent</i>	<i>Funds Recommended</i>
	(1)	(2)	(3)	(4)	(5)	(6)
Metrics Assigned	0.290***	401,888***	0.011	18,254	-0.053	-10,042
	(0.083)	(109,081)	(0.062)	(22,179)	(0.078)	(15,197)
Individual Controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	190	190	190	190	190	190
R-squared	0.164	0.206	0.120	0.103	0.089	0.100
Mean of dep. var. (placebo)	0.174	171812.1	0.174	51073.83	0.262	41744.97

The Bottomline

When faced with policy choices having real reputational costs, implementation challenges and public budgetary constraints, treated policymakers choose policy for which there is causal evidence.

Conclusion

- We find that training in the paradigm of the credibility revolution impacts:
 - Attitudes on importance of quantitative evidence
 - Willingness-to-Pay for experimental evidence
 - Policy decisions
- One year after the training, in their official duties, treated policymakers are:
 - Twice as likely to actually choose policies for which there is causal evidence
 - Triple the funding recommendations for such policies

Future Work

- Does this replicate to other contexts?
 - Currently, we are training UK Deputy Ministers and Permanent Secretaries in Econometrics
 - What was in the training that was most impactful?
- Can we build capacity in other skills?
 - Not just hard-skills but also soft-skills are important - Training Effective Altruism (**Revise and Resubmit, Nature**)
 - Training Policymakers in AI

Thank You for Your Attention

- Twitter: **@mrsultan713**
- Email for more detailed questions/feedback: smehmood@nes.ru

Randomization Inference - I

	<i>Pre Lecture Rating Quantitative</i>	<i>Post Lecture Rating Quantitative</i>	<i>Pre Lecture Rating Qualitative</i>	<i>Post Lecture Rating Qualitative</i>	<i>Pre Lecture Run RCT</i>	<i>Post Lecture Run RCT</i>	<i>Pre Lecture Why Run RCT</i>	<i>Post Lecture Why Run RCT</i>
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Metrics Assigned	0.912 (0.000) *** {0.000} ***	1.538 (0.000) *** {0.000} ***	0.136 (0.487) {0.491}	0.122 (0.554) {0.533}	0.166 (0.046) ** {0.075} *	0.220 (0.011) ** {0.012} **	0.151 (0.085) * {0.104}	0.153 (0.080) * {0.096} *
Individual Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	190	190	190	190	190	190	190	190
Mean of dep. var. (placebo)	2.657	2.657	2.657	2.714	0.400	0.400	0.386	0.379

Randomization Inference - II

	<i>Deworming Policy</i>		<i>Orphanage Renovation Policy</i>		<i>School Renovation Policy</i>	
	<i>Letter Sent</i>	<i>Funds Requested</i>	<i>Letter Sent</i>	<i>Funds Requested</i>	<i>Letter Sent</i>	<i>Funds Requested</i>
	(1)	(2)	(3)	(4)	(5)	(6)
Metrics Assigned	0.656	0.714	0.0288	0.131	-0.122	-0.0808
	(0.001) ***	(0.001) ***	(0.866)	(0.412)	(0.498)	(0.510)
	{0.001} ***	{0.001} ***	{0.868}	{0.508}	{0.507}	{0.635}
Individual Controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	190	190	190	190	190	190
R-squared	0.164	0.206	0.120	0.103	0.089	0.100

Multiple Hypothesis Testing

	Lecture Rating Quantitative	Deworming Letter	Deworming Funds	Amount Randomization Trial	Amount Correlation Data	Assessment Public Policy	Assessment Research Methods
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Metrics assigned	1.541	0.290	401,888	1391308	-35,274	0.505	0.799
p-value	(0.001) ***	(0.001) ***	(0.001) ***	(0.038) **	(0.007) ***	(0.003) ***	(0.001) ***
Sharpened q-value	[0.002] ***	[0.002] ***	[0.002] ***	[0.009] ***	[0.004] ***	[0.002] ***	[0.002] ***
FWER p-value	{0.002} ***	{0.002} ***	{0.002} ***	{0.175}	{0.002} ***	{0.179}	{0.002} ***
Observations	190	190	190	180	180	190	190
R-squared	0.425	0.164	0.206	0.094	0.148	0.071	0.218
Mean of dep. var. (Placebo)	2.745	0.174	171812.1	928546.1	94136.720	0.171	0.219

Transmission of Social Norms

Why Rights Revolutions are Rare?

IOEA 2022

23th May 2022

Motivation

- Recognition of the marginalized is fundamental for economic and political empowerment of vulnerable groups (Smith, 1759; Hegel, 1820)
 - Campaigns for equal rights are in fact “struggles for recognition” (Taylor, 1992, p. 26).

The Research Questions

- 1 How can progressive attitudes be fostered?
- 2 Can these attitudes transmit and spillover to others?
- 3 Why are progressive attitudes not universally adopted?

The Context

- Primary School Teachers in Government Schools of Pakistan
 - Civil servants: public school teachers
 - These teachers teach 5 to 12 year-olds
- We conduct a randomized control trial in collaboration with the Progressive Education Network (PEN)
 - PEN is one of the largest network of public schools in the world with about 300 schools operating across Pakistan

This Paper - I

- Study Design:
 - We randomly assign teachers to a Visual Narrative-a live screening of the movie “Bol” emphasizing gender rights + a self-reflection workshop on themes of the movie
 - We reinforce the Visual Narrative with a semester-long gender studies curriculum that the teachers taught to students “Self-Persuasion Treatment”
- Treated teachers become more supportive of equitable gender rights
 - Gender attitudes transmit to students
- Effects are heightened, when the Visual Narrative is combined with the curriculum
- Bottomline: Greater recognition of gender rights can be fostered

This Paper - II

- But this “moral entrepreneurship” is costly
 - The cultivation of more equitable gender views is stressful
 - Stress is measured in self reported surveys but also via teachers’ hormonal responses in their blood plasma concentrations
 - Treated teachers have higher self-reported stress and elevated blood cortisol concentration
- This negative effect of increased stress attenuates via a moral bandwagoning effect:
 - The negative effects dissipate as more and more teachers adopt the new gender attitudes
 - Progressive gender norms can be cultivated but they come with
 - This may explain why progressive gender norms do not easily take hold in societies

Related Literature and Contributions

• Social Norms

- A vibrant literature has looked at how social norms impact economic, political and social behavior (Mas and Moretti, 2009; Bursztyn and Jensen, 2015; Fujiwara et al., 2019; Bursztyn et al., 2020)
- We contribute to this literature by documenting – the external versus internal social sanctions – in stymieing rights revolutions

• Bandwagoning and Herd Behavior

- A classic literature on bandwagoning provides theoretical framework for herd behavior (Becker, 1991; Bikhchandani and Hirshleifer, 1992; Banerjee, 1992; Shiller, 1995).
- People have herd mentality: financial markets, protests, voting etc
- We provide causal evidence on how herding may reduce the costs of adopting a new moral norm

Roadmap

- 1 Background
- 2 Data
- 3 Empirical Specification
- 4 Results
- 5 Experimental Demand
- 6 Conclusion
- 7 Appendix: Additional Robustness Checks

Context and Sample

- We collaborate with the Progressive Education Network (PEN) and embed a field experiment within their regular teacher training
- PEN works to improve the quality of education via a public-private partnership, similar to charter schools in the US.
- These schools are managed using public funds by the private actors in a public-private partnership
- Sample is all PEN schools in Punjab: 607 teachers, 15000 students

Visual Narrative Treatment

- Bol Movie as the Visual Narrative Treatment
 - We arranged a live screening of the movie about gender rights
 - The screening of the movie followed an hour-long discussion about recognition of gender rights
- The movie features a strong female lead on death row telling the story of why she found it necessary to murder her father
- The movie is critically acclaimed and one of the highest-grossing Pakistani films of all time

The Visual Narrative

The Movie Bol



Visual Narrative + Self-Persuasion Treatment


- Visual narrative augmented with self-persuasion
 - Self-Persuasion: Gender studies curriculum

Gender studies curriculum

- Teachers and students self-reflect together:
 - Draw all the work that your father does.
 - Draw all the work that your mother does.
 - Which of these are the same? Which are different?
 - **Why is that?**
 - Would you want the job of your mother or your father when you grow up?
 - **Why is that?**

Gender Studies Curriculum

A Typical Lesson Log Entry

Subject/ Date	Topic/ Page#	No. of Periods	Pedagogical Strategy/Teaching Methodology	Resource Material (AV Aids)	Assign- ment
SLOs / ELOs			Q → Would you want the job of your mother or your father, when you grow up?	- Book	Write a note on what your job in future is more likely to look like? And does it resemble any of your parent's job?
Students will be able to tell whose job would they prefer opting for in future.			<u>Part 1</u> :- Ask the class on what their mothers' & fathers' do.	- Pictures	
			<u>Part 2</u> :- Ask the class, what they would choose to become, from what their parents do?	- Board.	
			<u>Part 3</u> :- Show them the following pictures.		
SLOs / ELOs					
			<u>Part 4</u> :- Initiate an open discussion on what the children choose from the above pictures as their job & why?		
SLOs / ELOs					

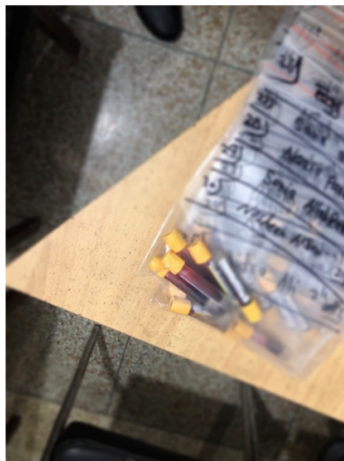
The Data

- The Progressive Education Network Administrative Records
- Surveys
- Plasma Cortisol Tests and Implicit Association Tests

Collecting Blood Samples for Cortisol - I



Collecting Blood Samples for Cortisol - II



OLS Estimation

$$Y_i = \theta + \alpha_1 \text{Visual Narrative}_i + \alpha_2 \text{Visual Narrative \& Self Persuasion}_i + \mathbf{W}'_i \boldsymbol{\psi} + \epsilon_i$$

(1)

- Subscript i is an individual teacher or student
- Y represents the respective outcome
- \mathbf{W} is a vector of controls
- Standard errors are clustered at the teacher level
- α 's give the causal impact of visual narrative and joint treatments

Summary of Experimental Design

- Teachers are randomly assigned to a Visual Narrative
 - They watch the movie “Bol” (3 hours)
 - The movie, Bol (literally, to speak up), is a Pakistani Urdu-language social drama with a strong female lead on death row
 - She tells her story of why she found it necessary to murder her father as her “right to exist as a woman” was subverted
 - Engage in a structured discussion of gender-related themes of the movie (1 hour)
- Teachers are randomly assigned to Visual Narrative and Self-Persuasion
 - The visual narrative treatment is augmented with gender studies curriculum which teachers teach for 4 months.
 - Teachers and students self-reflect and envision equal rights
 - Recent research suggests teaching concepts can be a instrument of self-persuasion

Balance

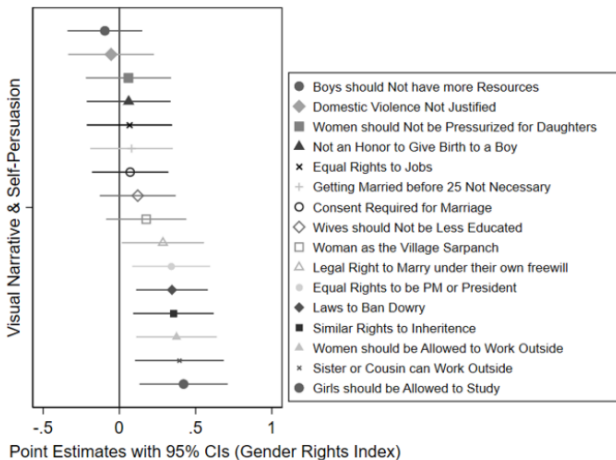
Panel A: Teacher Characteristics

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	<i>Bol Movie Heard</i>	<i>Bol Movie Watched</i>	<i>Married</i>	<i>Av. Teaching Hours</i>	<i>Av. Class Size</i>	<i>Teaching Experience</i>	<i>Years of Education</i>	<i>Educational Specialization</i>
<i>Visual Narrative & Self-Persuasion</i>	0.0173 [0.0651]	0.0598 [0.0688]	-0.0619 [0.0687]	0.130 [0.362]	-1.409 [2.757]	0.481 [0.407]	0.138 [0.210]	-0.0125 [0.0600]
<i>Visual Narrative</i>	0.0687 [0.0640]	0.0869 [0.0675]	-0.0767 [0.0674]	0.418 [0.356]	-2.323 [2.708]	0.0238 [0.400]	0.0719 [0.206]	0.0109 [0.0589]
<i>U</i>	-0.00220 [0.0634]	0.0265 [0.0669]	0.0107 [0.0668]	-0.0927 [0.353]	-0.666 [2.683]	-0.0173 [0.396]	-0.112 [0.204]	-0.0539 [0.0584]
<i>M</i>	0.0216 [0.0647]	0.0766 [0.0683]	-0.0965 [0.0682]	0.132 [0.360]	-2.167 [2.737]	0.441 [0.404]	-0.0771 [0.209]	-0.0559 [0.0596]
School Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	607	607	607	607	607	607	607	607
R-squared	0.067	0.075	0.078	0.063	0.088	0.075	0.057	0.085
F Statistics (Joint Significance)	0.814	0.697	0.431	0.681	0.905	0.547	0.736	0.697
Mean of dependent var	0.647	0.475	0.516	30.13	26.35	4.500	12.672	0.270

Effect on Gender Attitudes - I

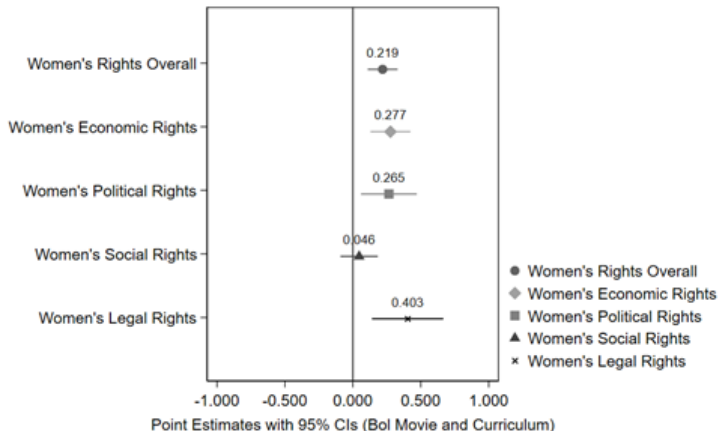
	(1)	(2)	(3)	(4)
	<i>Gender Recognition Index</i>	<i>Petition to Criminalize Dowry</i>	<i>Petition to Abolish Polygamy</i>	<i>Gender IAT Score</i>
<i>Visual Narrative & Self-Persuasion</i>	0.187*** [0.0510]	0.566*** [0.143]	0.512*** [0.146]	0.348** [0.162]
<i>Visual Narrative</i>	0.140*** [0.0511]	0.362*** [0.130]	0.349** [0.140]	0.247* [0.136]
<i>U</i>	0.0607 [0.0445]	0.0221 [0.104]	-0.0626 [0.0557]	-0.0786 [0.140]
<i>M</i>	0.0897* [0.0531]	0.0595 [0.109]	-0.0191 [0.0603]	-0.114 [0.123]
Individual Controls	Yes	Yes	Yes	Yes
School Fixed Effects	Yes	Yes	Yes	Yes
Observations	607	607	607	527
R-squared	0.138	0.140	0.200	0.131

Effect on Gender Attitudes - II



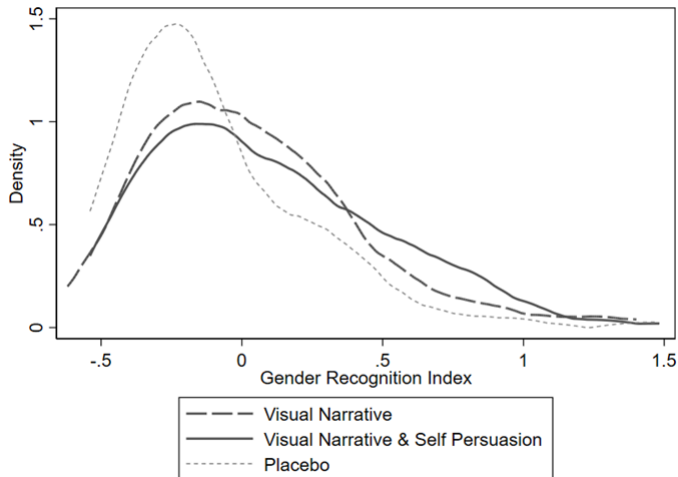
Effect on Gender Attitudes - III

Legal Discrimination



Effect on Progressive Gender Attitudes

Distributions

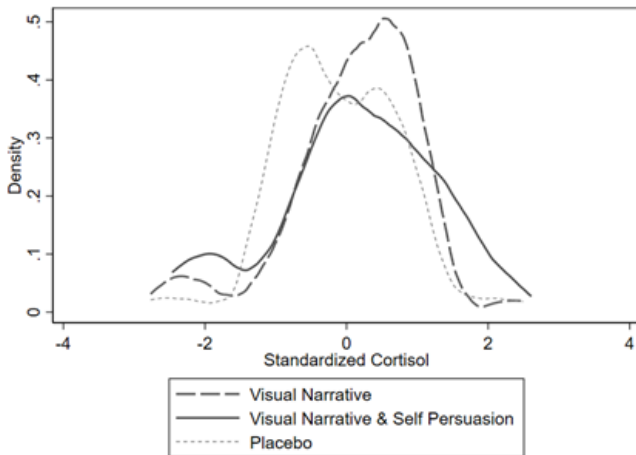


Effect on Stress

	(1)	(2)	(3)	(4)
	<i>Stress Likert</i>	<i>Stress Dummy</i>	<i>Cortisol Levels</i>	<i>Standardized Cortisol</i>
<i>Visual Narrative & Self-Persuasion</i>	0.444*** [0.158]	0.231*** [0.0406]	1.138*** [0.427]	0.344*** [0.129]
<i>Visual Narrative</i>	0.306** [0.153]	0.189*** [0.0343]	0.694* [0.419]	0.210* [0.127]
<i>U</i>	-0.109 [0.121]	-0.0181 [0.0142]	0.0206 [0.424]	0.00624 [0.128]
<i>M</i>	0.0331 [0.143]	-0.0329* [0.0172]	0.374 [0.410]	0.113 [0.124]
Individual Controls	Yes	Yes	Yes	Yes
School Fixed Effects	Yes	Yes	Yes	Yes
Observations	607	607	607	607
R-squared	0.156	0.293	0.145	0.145
Mean of Dep. Variable	2.269	0.091	11.152	0.000

Effect on Stress

Distributions



Effect on Domestic Violence

	(1)	(2)	(3)	(4)	(5)	(6)
	<i>Victim of Domestic Violence</i>		<i>Beliefs about Domestic Violence</i>		<i>Victim of Domestic Violence (Marlowe-Crowne)</i>	
<i>Visual Narrative & Self-Persuasion</i>	0.375*** [0.144]	0.357** [0.144]	0.0996 [0.135]	0.114 [0.135]	0.344** [0.172]	0.332* [0.173]
<i>Visual Narrative</i>	0.285** [0.129]	0.273** [0.128]	-0.216* [0.128]	-0.205 [0.129]	0.274* [0.162]	0.267* [0.161]
<i>U</i>	-0.0159 [0.0889]	-0.0168 [0.0886]	0.126 [0.130]	0.132 [0.130]	-0.0100 [0.116]	-0.00227 [0.114]
<i>M</i>	0.0498 [0.0909]	0.0333 [0.0912]	0.175 [0.138]	0.198 [0.139]	0.0359 [0.117]	0.0246 [0.117]
Individual Controls	No	Yes	No	Yes	No	Yes
School Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	607	607	607	607	526	526
R-squared	0.093	0.101	0.123	0.130	0.096	0.106

A Step Back

- Progressive Gender Attitudes can be fostered but it comes at costs
- Norm subverters bear the brunt through Internal and Social Sanctions
- Might Explain why rights revolutions are so rare!
- But can we mitigate the damage?

Moral Bandwagoning Effect on Internal Sanctions

	(1)	(2)	(3)	(4)
	<i>Stress Likert</i>	<i>Stress Dummy</i>	<i>Cortisol Raw</i>	<i>Standardized Cortisol</i>
<i>Fraction of Joint Treated</i>	0.854	-0.120	-5.988**	-1.810**
<i>Teachers X Joint Treatment</i>	[1.160]	[0.317]	[2.666]	[0.806]
<i>Visual Narrative & Self-Persuasion</i>	0.217	0.263**	2.729***	0.825***
	[0.362]	[0.102]	[0.823]	[0.249]
Individual Controls	Yes	Yes	Yes	Yes
School Fixed Effects	Yes	Yes	Yes	Yes
Observations	607	607	607	607
R-squared	0.157	0.293	0.151	0.151
Mean of Dep. Variable	2.269	0.091	11.152	0.000

Do norms spillover to students?

	(1)	(2)	(3)	(4)
	<i>Overall</i>	<i>Girls</i>	<i>Boys</i>	<i>Gender Gap</i> <i>(Girls – Boys)</i>
<i>Visual Narrative & Self-Persuasion</i>	0.243*** [0.0504]	0.400*** [0.0698]	0.112* [0.0636]	0.425*** [0.159]
<i>Visual Narrative</i>	0.138*** [0.0530]	0.266*** [0.0766]	0.0488 [0.0595]	0.0704 [0.169]
Individual Controls	Yes	Yes	Yes	Yes
School Fixed Effects	Yes	Yes	Yes	Yes
Observations	13,911	6,804	7,107	8,936
R-squared	0.043	0.062	0.041	0.192

Alternative Mechanism

Moral Bandwagoning Effect on Attitudes & Social Sanctions

	(1)	(2)	(3)	(4)	(5)	(6)
	<i>Gender Recognition Index</i>	<i>Petition to Criminalize Dowry</i>	<i>Petition to Abolish Polygamy</i>	<i>Standardized Gender LAT Score</i>	<i>Beliefs about Domestic Violence</i>	<i>Victim of Domestic Violence</i>
<i>Fraction of Joint Treated Teachers X Joint Treatment</i>	-0.204 [0.332]	0.524 [1.012]	-0.194 [0.997]	-1.355 [1.232]	-1.235 [0.962]	1.064 [0.988]
<i>Visual Narrative & Self-Persuasion</i>	0.242** [0.106]	0.426 [0.300]	0.564* [0.332]	0.693* [0.374]	0.441 [0.301]	0.0533 [0.297]
Individual Controls	Yes	Yes	Yes	Yes	Yes	Yes
School Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	607	607	607	527	607	607
R-squared	0.139	0.141	0.201	0.134	0.133	0.107

Discussion of Experimental Demand

- ① Unlikely, specially for blood cortisol concentrations
 - Cortisol is secreted by adrenal glands, involuntarily, in response to stress
- ② We use implicit association test, which is based on the idea that the easier the mental task, the faster the response:

IATs have the advantage of (1) mitigating social-desirability bias in the responses and (2) capturing implicit associations that may be unknown to the individual but may nevertheless affect attitudes and behavior
- ③ We find similar results when use Marlowe-Crowne social desirability scale that rigorously measures a person's propensity to give socially-desirable answers
 - When we discard individuals who score high on this social desirability scale, the results are essentially identical

Conclusion

- We find that progressive gender norms can be cultivated:
 - These norms spillover from teachers to students
 - But the norm subverters pay
- Norm subvertors:
 - Have more progressive implicit and explicit gender attitudes
 - Are about 0.3 standard deviations more stressed
 - Are about 0.4 standard deviations more likely to experience domestic violence
 - The negative effect virtually disappears as the new norms diffuse through society

Thank You for Your Attention

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