Conflict and Gender Norms

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Question and Motivation

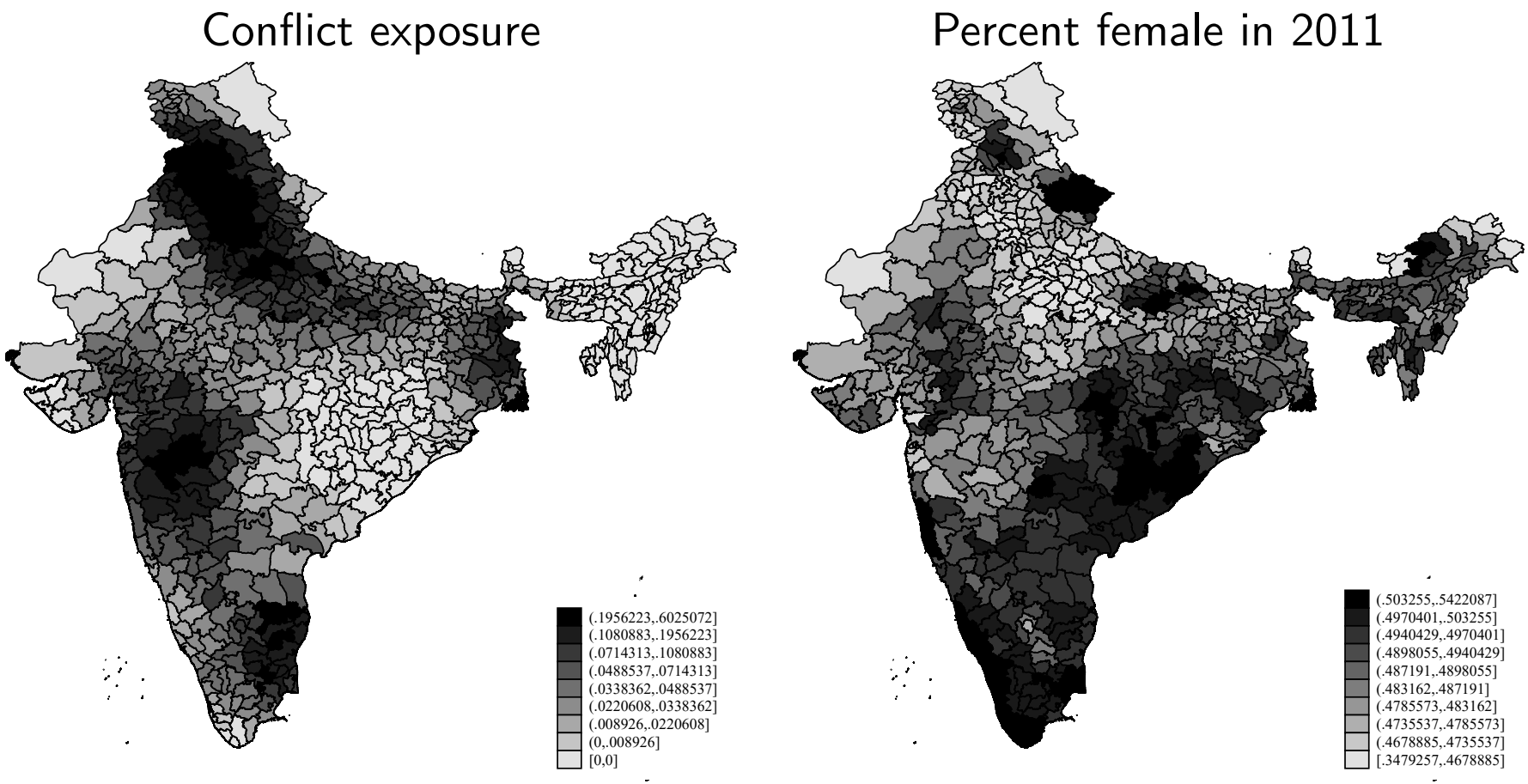
Where do male-favoring gender norms come from?

- Male-favoring gender inequality is widespread in the developing world (Duflo 2012; Jayachandran 2015). *But* there are sizable differences in gender-related outcomes at similar levels of development.
- India exhibits both acute gender inequality (63 million "missing women") and significant spatial variation in gender norms.
- Existing explanations of this variation are insufficient:
  - e.g. cultivation of rice vs wheat (Bardhan 1974; Kishor 1993; Rosenzweig and Schultz 1982); rice suitability is not a robust predictor of sex ratios historically (Fenske, Gupta and Neumann 2022).
  - e.g. plough agriculture (Alesina, Giuliano and Nunn 2013; Boserup 1970); the plough is widespread and there is spatial variation in missing women within plough-suitable regions.

This Paper

- We focus on exposure to historical conflict. Conflict involving heavy weaponry can produce cultural norms favoring males (Harris 1974).
- For districts of modern India, we compute exposure to conflict between 1000 and 1757, using data from Jaques (2007) and others.
- Across districts, a one standard deviation increase in pre-colonial conflict exposure predicts a 0.15 standard deviation decrease in the female population share.
- This result is robust to (among other checks) alternative outcomes, fixed effects, controls, and an IV analysis exploiting proximity to the Khyber Pass.
- How were male-favoring norms transmitted? We show evidence that more conflict-exposed locations have...
  - more male-biased folklore,
  - fewer female deities in Mughal-era temples,
  - more patrilocal exogamy in the present,
  - and more male-biased sex ratios dating at least to the colonial period.
- In an "epidemiological" approach assigning conflict exposure based on language, we show that male-biased norms are portable.
- Our result is strongest where we would expect sex-selective abortion to be most prevalent – at higher birth orders not preceded by a son.

Pre-Colonial Conflict Exposure and Percent Female



Notes. Panel (a) shows pre-colonial conflict exposure to land battles between 1000-1757 by district in India, while Panel (b) shows the percentage of the population that is female in 2011. Districts are shaded by decile, where districts in the top decile receive the darkest shade.

Contribution

- On the deep roots of male-favoring gender norms (e.g. Alesina, Giuliano and Nunn 2013; Boserup 1970):
  - We focus on the importance of physical strength for pre-colonial warfare rather than for plough agriculture.
- On the historical determinants of women's role in society (e.g. Grosjean and Khattar 2019; Xue 2023):
  - We emphasize the importance of interstate military rivalry and warfare to the transmission and endurance of gender norms.
- On violent conflict and male-favoring gender outcomes (e.g. Ramos-Toro 2019; Sng, Xue and Zhong 2018):
  - We study a large and rapidly developing country in which gender inequality persists.
  - Our data extends much further back in time, and our analysis spans the pre-colonial, colonial, and post-independence eras.
  - We show that a shortage of men need not counteract male-favoring gender norms.
- On missing women in India (e.g. Bardhan 1974; Carranza 2014):
  - We focus on deep determinants, emphasizing the transmission and endurance of conflict-related gender norms.

Missing Women

- Patterns:
  - India is disproportionately male, 48.5% female in 2011, vs 50.9% in the OECD (2011 Census, WDI).
  - This male bias appears at birth, with 1,095 boys born per 1,000 girls in 2011 vs 1,050 in the OECD (WDI).
  - The female deficit was noted as early as the 1881 censuses (Fenske, Gupta and Neumann 2022).
  - Sex ratios skew more male in the North than in the South; among Hindus and Sikhs than among Muslims and Christians; and among upper castes versus the rest of the population.
- Proximate explanation? Son preference (Jayachandran 2015). Deeper explanations?
  - *Agricultural Practices*: Women's labor in cultivation is greater in rice vs wheat growing areas (Bardhan 1974; Kishor 1993; Rosenzweig and Schultz 1982) and in districts with clay vs loam (Carranza 2014).
  - *Religion*: Eldest sons are important in Hindu rites (Jayachandran 2015; Visaria 2015).
  - *Caste*: Upper-caste women struggle to marry down, but are expected to marry (Borker et al. 2022; Chakraborty and Kim 2010; Gupta 2014).

Pre-Colonial Military Rivalry

- Political fragmentation and military competition were lasting features of pre-colonial India's landscape (de la Garza 2016).
- By the start of the 1500s, the major rivals in India were the Deccan Sultanates, the Delhi Sultanate, the Rajput states, and the Vijayanagar Empire, each of which could mobilize a large army (Roy 1994). The Delhi Sultanate may have had 475,000 cavalrymen.
- From at least the 14th century onward, peasant men in India combined agricultural work with military service (Kolff 1990, 2013; Oldenburg 1992; Gordon 1998; Richards 2004).
  - Peasant service in military driven by needs for risk diversification and safety.
  - Agricultural demands reduced mobility, segmenting the military labor market.
  - These men could be skilled in the use of heavy weaponry such as recurve bows, swords, muskets, or artillery.
  - In times of conflict, both Hindu and Muslim rulers relied on a militarized peasantry.
  - Peasant military mobilization was widespread, and not confined to specific castes. The military labor market was large – 4 million according to the *Ain-i-Akbari*.
- Beginning with its key victory at the Battle of Plassey in 1757, the British East India Company became an important – and eventually dominant – political power in India, until independence in 1947 (de la Garza 2016; Dutt 1950).
- Our benchmark measure of conflict exposure ends in 1757, as the British helped demilitarize the countryside and broaden the military labor market (Kolff 2013).

Male-Favoring Gender Norms

- Harris (1974): Conflict involving heavy weaponry shaped gender norms in hunter-gatherer groups.
- We extend this insight to historical military battles between rival states, particularly with recurrent conflict.
- Norms endure through imitation by later generations (Nunn 2022), despite economic development and greater security.
- Persistence derives from rules of thumb (Boyd and Richerson 1985), parental transmission of norms (e.g. Bisin and Verdier 2001), and institutions.
- Persistence was possible in British India because of reliance on traditional legal systems (Lange 2004; Roy and Swamy 2019) and weak enforcement of restrictions e.g. on child marriage.
- In post-independence India, sub-national governments have had considerable autonomy in spheres such as female education and inheritance rights (Bhalotra, Brulé and Roy 2020; Roy 2015).

Alternative Mechanisms

- Economic Development and State Capacity
  - Historic warfare may have shaped state-making and economic development (Besley and Persson 2011; Dincecco et al. 2022; Tilly 1992), which can directly influence the status of women (Goldin 1995; Mammen and Paxson 2000).
  - But neither state capacity nor economic development mediate our results.
- Male Scarcity
  - Male scarcity may have counteracted male-favoring gender norms if women filled traditionally male roles (Alix-Garcia et al. 2022; Teso 2018).
  - But this process can be countered by intensification of patrilocal exogamy, especially where marriage is culturally important (Gupta 2014).
  - And we find no evidence matrilineal descent, male dominance in agriculture, or polygyny responded to favor women.
- Cultural Diffusion
  - Outside combatants may have imparted certain norms.
  - But neither foreign rule nor cultural distance mediate our results.
- Colonial- and Post-Independence Conflict
  - If persistent, it could explain our results.
  - But it is anti-persistent (Dincecco et al. 2022), and later conflict does not mediate our results.

Empirical Strategy

$$Y_d = \beta ConflictExposure_d + \lambda PopDensity_d + \mu_s + X_d'\phi + \epsilon_d \quad (1)$$

- Y_d measures an outcome in district d, e.g. the percentage of the population that is female in 2011.
- Our sample is districts of post-independence, mainland India.
- $ConflictExposure_d$ is our main explanatory variable.
- $PopDensity_d$ is log population density prior to the outcome.
  - In baseline, we use 1990 values from Gridded Population of the World v4.
- μ_s is state fixed effects.
- X_d includes latitude, longitude, altitude, ruggedness, precipitation, land quality, suitability for dryland rice, suitability for wetland rice, suitability for wheat, and malaria risk.
- ϵ_d is the error term.
- Baseline standard errors are robust.

Data: Conflict

- We take our main historical conflict data from Dincecco et al. (2022), who themselves rely primarily on the encyclopedia of battles by Jaques (2007).
- This work has short descriptions of more than 8,000 battles (i.e. violent clashes between organized combatant forces), organized alphabetically.
- Following Dincecco et al. (2022) our baseline measure of exposure to pre-colonial conflict is:

$$ConflictExposure_d = \sum_{c \in \mathcal{C}} (1 + distance_{d,c})^{-1}. \quad (2)$$

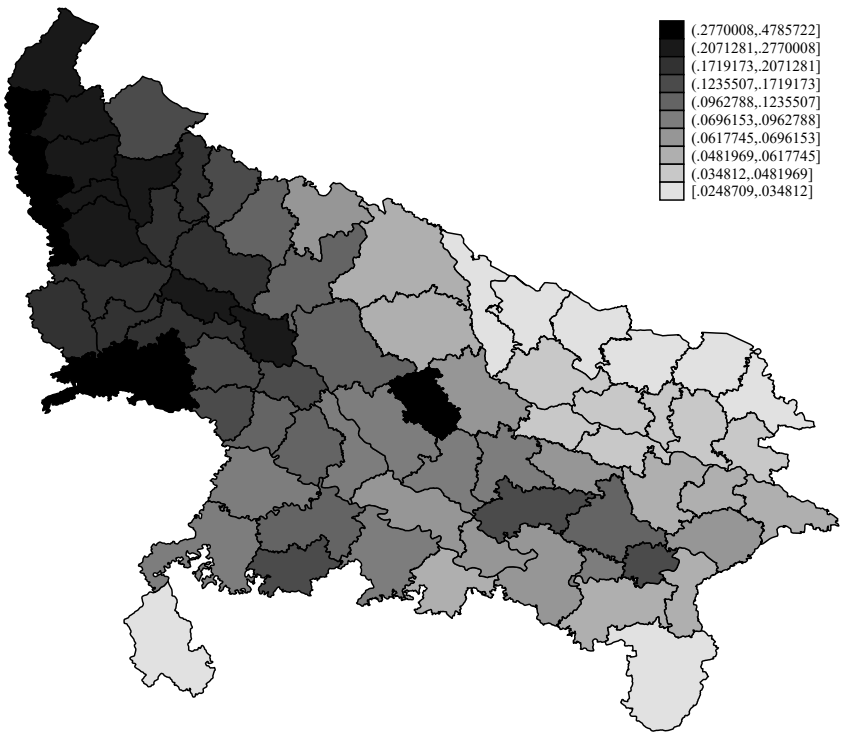
- $distance_{d,c}$ measures the distance from the centroid of district d to the location of conflict c.
- We only include conflicts within set $\mathcal{C}$ (e.g. conflicts within 250 km of a district's centroid).
- In the baseline, our conflict exposure measure includes all land battles that took place between the years 1000 and 1757 within a radius of 250 km.

Data: Gender

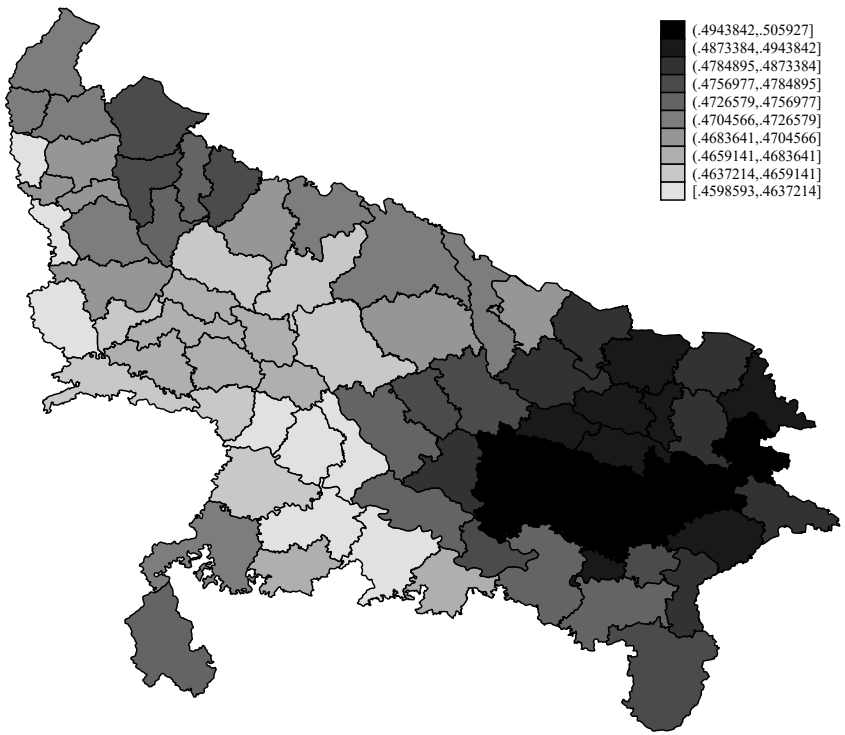
- Main outcome: Percentage of the population that is female in the 2011 Indian Census.
  - A sex ratio in which males outnumber females is a key proxy for gender inequality and neglect (Sen 1990, 2003).
- First alternative: Indicator for whether a particular birth recorded in a woman's self-reported birth history is female.
  - We use this measure in order to focus on the sex ratio at birth.
  - We employ the births recodes of the 2015-16 Indian Demographic and Health Survey (DHS).
  - These data consist of the full birth histories of a nationally representative sample of women aged 15 to 45.
- Second alternative: Prevalence of crimes against women
  - The National Crimes Bureau provides data on the number of reported incidents of 7 specific crimes against women (e.g. "dowry deaths") between 2001 and 2012.
  - To compute a single outcome measure, we divide these by 100,000 women in the 2001 census, take the inverse hyperbolic sine, and construct an Anderson (2008) index.

Pre-Colonial Conflict Exposure and Percent Female: Uttar Pradesh

Conflict exposure



Percent female in 2011



Notes. Panel (a) shows pre-colonial conflict exposure to land battles between 1000-1757 by district in Uttar Pradesh, while Panel (b) shows the percentage of the population that is female in 2011. Districts are shaded by decile, where districts in the top decile receive the darkest shade.

Overview of Main Results

- Sex Ratios:
  - A one standard deviation increase in exposure to pre-colonial conflict exposure predicts a 0.15 standard deviation reduction in the share of a district's population that is female.
  - This magnitude is comparable in size to the results that Carranza (2014) reports in response to clay soil textures (0.11), and Alesina et al. (2013) report in response to traditional plough use (0.20)
- Female Births:
  - A one standard deviation increase in exposure to pre-colonial conflict exposure predicts a 0.10 standard deviation reduction in the probability that a birth is female.
  - Note these results are at the individual birth level with standard errors clustered by district.
- Crimes Against Women
  - A one standard deviation increase in exposure to pre-colonial conflict exposure predicts a 0.129 standard deviation increase in crimes against women.
  - Note these results are a pooled panel with year fixed effects and standard errors clustered by district.

Pre-Colonial Conflict Exposure and Percent Female

	(1) Percent female in 2011	(2) Percent female in 2011	(3) Percent female in 2011
Pre-colonial conflict exposure	-0.053***	-0.029***	-0.025***
	(0.007)	(0.007)	(0.006)
N	657	657	657
State FE	No	Yes	Yes
Controls	No	No	Yes
Standardized β	-0.321	-0.176	-0.149
LHS mean	0.486	0.486	0.486
RHS s.d.	0.0964	0.0964	0.0964

Notes: ***Significant at 1%, **Significant at 5%, *Significant at 10%. All specifications include a constant and the natural log of population density in 1990. Controls are latitude, longitude, altitude, ruggedness, precipitation, land quality, suitability for dryland rice, suitability for wetland rice, suitability for wheat, and malaria risk. Robust standard errors in parentheses.

Pre-Colonial Conflict Exposure and Female Children in DHS Births Recodes

	(1) Female	(2) Female	(3) Female
Pre-colonial conflict exposure	-0.065***	-0.032***	-0.021**
	(0.007)	(0.009)	(0.010)
N	1,220,798	1,220,798	1,220,798
State FE	No	Yes	Yes
Controls	Individual	Individual	Individual and geographic
LHS mean	0.475	0.475	0.475
RHS s.d.	0.102	0.102	0.102

Notes: ***Significant at 1%, **Significant at 5%, *Significant at 10%. All specifications include a constant and the natural log of population density in 1990. Individual controls are years of birth of both the mother and child. Geographic controls are latitude, longitude, altitude, ruggedness, precipitation, land quality, suitability for dryland rice, suitability for wetland rice, suitability for wheat, and malaria risk. Standard errors clustered by district in parentheses.

Pre-Colonial Conflict Exposure and Crimes against Women

	(1) Violence index	(2) Violence index	(3) Violence index	(4) Violence index
Pre-colonial conflict exposure	0.950***	1.182***	1.182***	0.635**
	(0.268)	(0.339)	(0.339)	(0.279)
IHS Murder per 100 000				0.427***
				(0.040)
N	7,054	7,054	7,054	7,054
Year FE	Yes	Yes	Yes	Yes
State FE	No	Yes	Yes	Yes
Controls	No	No	Geographic	Geographic
Standardized β	0.104	0.129	0.129	0.0693
LHS mean	0	0	0	0
RHS s.d.	0.109	0.109	0.109	0.109

Notes: ***Significant at 1%, **Significant at 5%, *Significant at 10%. All specifications include a constant and the natural log of population density in 1990. Controls are latitude, longitude, altitude, ruggedness, precipitation, land quality, suitability for dryland rice, suitability for wetland rice, suitability for wheat, and malaria risk. All specifications also include year fixed effects. Standard errors clustered by district in parentheses.

Robustness (Appendix)

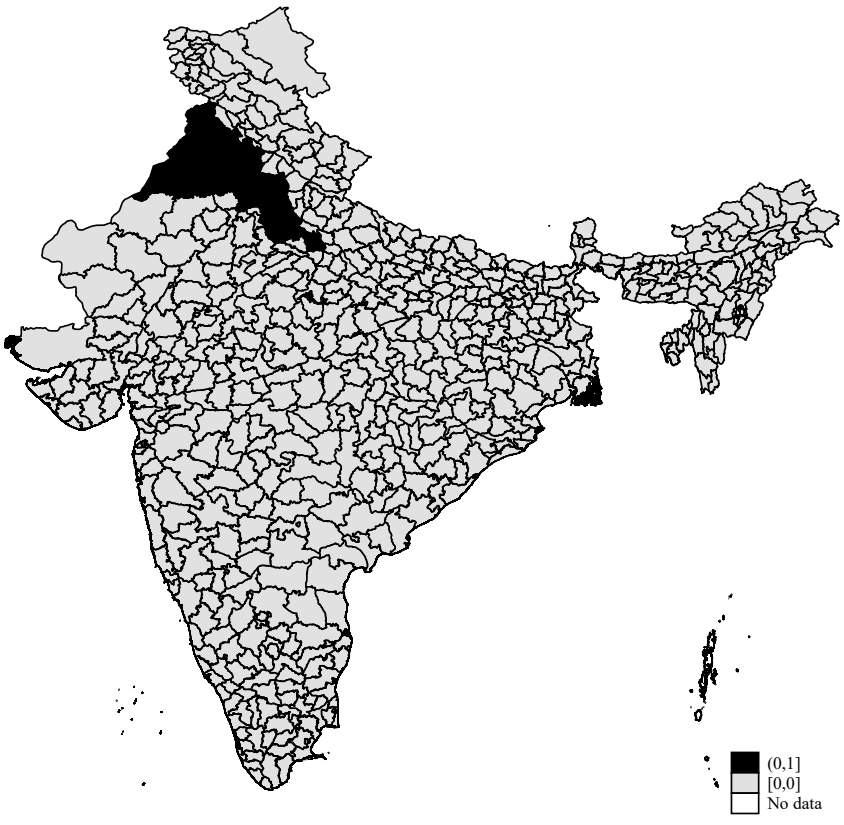
- Unit of observation: Birth-level results by $1^\circ \times 1^\circ$ grid cell and tehsil.
- Sample: Drop states one by one. Drop historic Punjab. Restrict to Hindu districts. Drop districts impacted by Partition. Drop border states. Add Pakistan and Bangladesh. Drop centuries one by one. Restrict to districts with positive conflict exposure.
- Controls: Population density in 1000. Plough positive/negative crops. Clay/loam. Additional geography – coast distance, river, irrigation, rainfall variability, distance to resources, forests. Measures of initial state capacity. Measures of initial gender norms. Nomadic pastoralism. Direct Rule. Non-landlord revenue system. Year of first railroad. Migration flows related to Partition. Measures of ethnic relations. Measures of language and religion. Pre-1000 and post-1757 exposure to conflict. Distance from major urban centers. Asian Highway 1. $3^\circ \times 3^\circ$ cell fixed effects. Drop population density.
- Standard errors: Spatial noise placebos. Conley (1999) Standard Errors. Cluster by (anachronistic) state. Cluster by state with wild cluster bootstrap (Cameron, Gelbach and Miller 2008). Polynomial in latitude and longitude.
- Conflict measure: Drop Mughal conflicts. Drop combatants outside South Asia. Drop European combatants. Drop "Muslim conquests." Restrict to Maratha conflicts. Add battles from Clodfelter (2002) and Naravane (1997). Compute exposure according to Brecke (1999) or Wikidata. Restrict to civil conflicts. Restrict to conflicts within India. Include all conflict types (e.g. siege). Control for exposure to multi-day, multi-year conflicts. Add battles before 1000. Exposure up to British annexation. Exposure to conflicts up to 5,000 km away. Treat capitals as battle locations. Convex hulls for groups of battles.
- Outcome measure: Sex ratio rather than percent female.
- Other results: Crimes against women by type.

Instrumental Variables

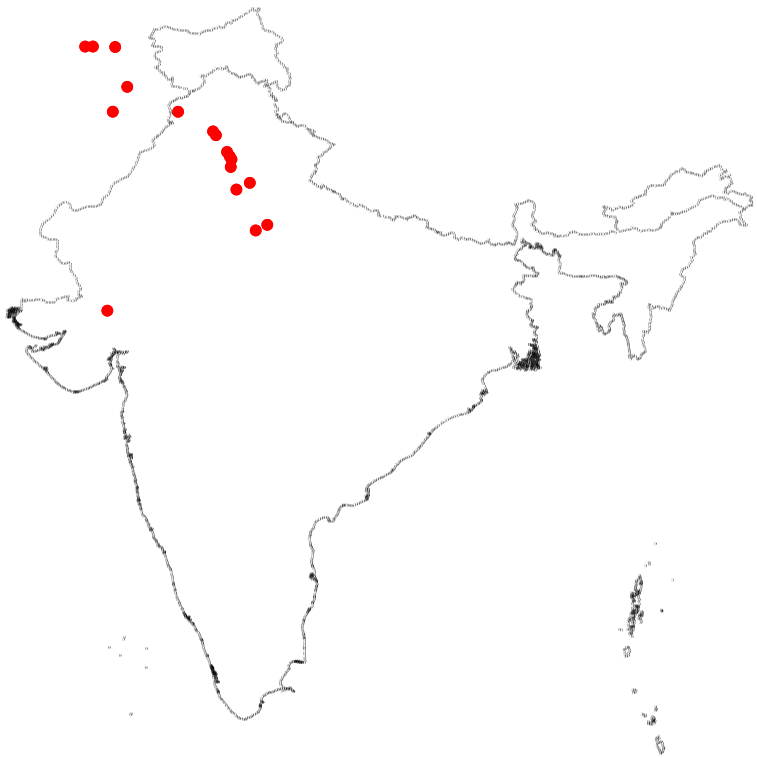
- Intuition: Before British rule, the Khyber Pass was the main route taken by outside combatants into India (Docherty 2008).
- Definition:
  - Calculate the least-cost travel route between each raster grid cell in India and the Khyber Pass.
  - The cost of crossing a grid cell is proportional to its squared ruggedness (Özak 2012; Nunn and Puga 2012).
  - Average over grid cells within a district to compute a district's cost of reaching the Khyber Pass.
  - Khyber Proximity, the instrument, is equal to 1 for the 50 districts closest to the pass, 0 otherwise.
- Our IV results with all controls and fixed effects are 58% larger than the corresponding OLS results, consistent with measurement error in conflict exposure.

Khyber Proximity and Battles Involving Overland Combatants

Khyber Proximity



Battles Involving Overland Combatants



Notes. Panel (a) shows the Khyber proximity instrument, while Panel (b) shows the battles involving a party entering South Asia over land via the Khyber pass.

Instrumental Variables Results

	(1)	(2)	(3)
Panel A: Second Stage			
	Percent female in 2011	Percent female in 2011	Percent female in 2011
Pre-colonial conflict exposure	-0.093***	-0.088***	-0.039*
	(0.010)	(0.025)	(0.020)
KPF	130.7	14.42	10.87
Panel B: First Stage			
	Pre-colonial conflict exposure	Pre-colonial conflict exposure	Pre-colonial conflict exposure
Khyber proximity	0.203***	0.094***	0.080***
	(0.018)	(0.024)	(0.023)
Panel C: Reduced Form			
	Percent female in 2011	Percent female in 2011	Percent female in 2011
Khyber proximity	-0.019***	-0.008***	-0.003**
	(0.001)	(0.001)	(0.001)
N	657	657	657
State FE	No	Yes	Yes
Controls	No	No	Yes

IV Robustness (Appendix)

- Trade: Show balance with historical trade measures. Control for historical trade + cost distance measures.
- Placebos: Consider distance from Surat, Kodung, Goa, Calicut and Bombay.
- Railways: Control for year of first railway.
- Alternative Instrument: Use exposure to overland conflicts.
- Comparison Group: Exclude districts far from the Khyber Pass.
- Sacks: Exclude Delhi district, which experienced historical sackings.

Transmission Mechanisms: Overview

- Transmission mechanisms:
  - Male-Biased Folkloric Traditions: We provide examples of more male-biased folk songs from more conflict-exposed locations and less male-biased folk songs from less conflict-exposed locations.
  - Using data from Michalopoulos and Xue (2021) on traditions in 52 societies, we show this correlation holds statistically.
  - Hindu Temple Gods: Using maps from Schwartzberg (1978, 47), we show Mughal-era temples dedicated to female deities correlate negatively with conflict exposure.
  - Appendix: This survives controlling for older female temples.
  - Patrilocal Exogamy: Using the 2005 wave of the India Human Development Survey, we show that conflict exposure predicts daughters are less likely to marry in their natal village.
- Endurance over Time: We trace the correlation between sex ratios and conflict exposure back to the colonial period.
- Epidemiological Approach: Coding conflict exposure by language rather than location, we show births to women with greater ancestral conflict exposure are less likely to be female, even within districts and within villages/neighborhoods.
- Birth Order: We find no evidence of a link between conflict exposure and the probability that a birth is female for first births or second births where the first birth was a boy. However, we find that this link is strong for second births where the first birth was a girl and for third births where the first two births were female. These parities are where the literature suggests that sex-selective abortion is most prevalent (Bhalotra and Cochrane 2010).

Qualitative Evidence

- Contrast folk songs from the Punjab...

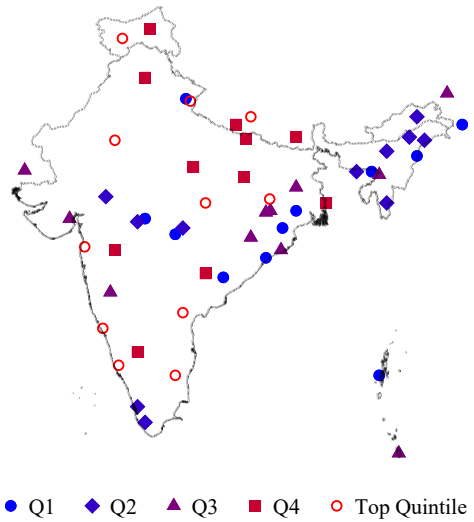
  Eat "gur" and spin the cotton roll
  Go to heaven and send your brother. (Bedi 1969, 170)

- ...with folk songs from Coorg:

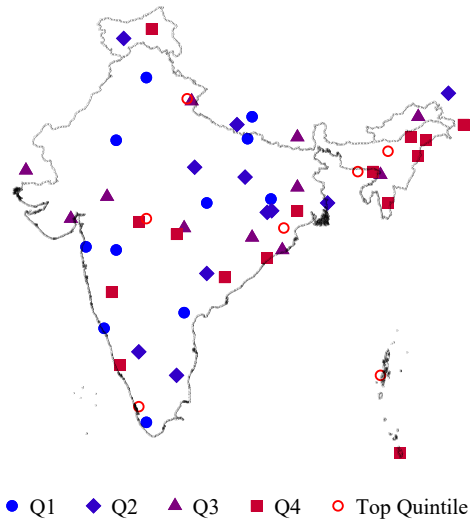
  A useless heap when I've no wife.
  And all my toil is toil in vain
  Unless a child the house contain. (Gover 1871, 129)

Male Bias in Folklore in Michalopoulos and Xue (2021)

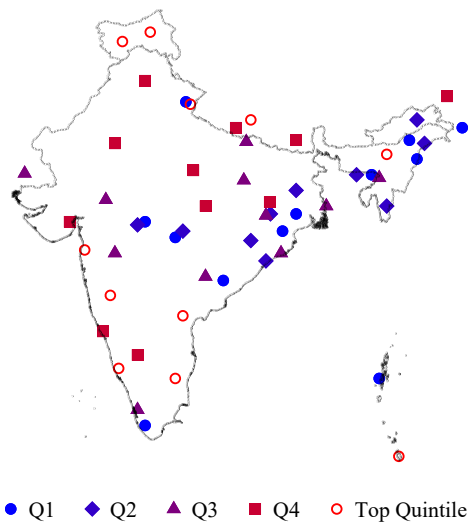
Male bias in motifs



% of motifs males are more submissive



% of motifs males are more violent



Male Bias in Folklore

	(1) Male bias in motifs above median	(2) Male bias in motifs above median	(3) Male bias in motifs above median
Pre-colonial conflict exposure	1.602***	1.278*	1.052**
	(0.491)	(0.725)	(0.463)
N	52	52	52
State FE	No	Yes	No
Controls	No	No	Yes

Notes: ***Significant at 1%, **Significant at 5%, *Significant at 10%. All specifications include a constant and the natural log of population density in 1990. Controls are latitude, longitude, altitude, ruggedness, precipitation, land quality, suitability for dryland rice, suitability for wetland rice, suitability for wheat, and malaria risk. Robust standard errors in parentheses.

Female Temples during the Mughal Era

	(1) Female temple	(2) Female temple	(3) Female temple
Conflict exposure to 1526	-0.089*	-0.201*	-0.303**
	(0.053)	(0.106)	(0.154)
N	657	657	657
State FE	No	Yes	Yes
Controls	No	No	Yes

***Significant at 1%, **Significant at 5%, *Significant at 10%. All specifications include a constant. Controls are latitude, longitude, altitude, ruggedness, precipitation, land quality, suitability for dryland rice, suitability for wetland rice, suitability for wheat, and malaria risk. All specifications also control for log population density in 1500. Robust standard errors in parentheses.

Patrilocal Exogamy

	(1) Daughter marries in natal village	(2) Daughter marries in natal village	(3) Daughter marries in natal village
Pre-colonial conflict exposure	-0.750***	-0.484***	-0.442***
	(0.156)	(0.169)	(0.151)
N	41,213	41,213	41,213
State FE	No	Yes	Yes
Controls	No	No	Yes

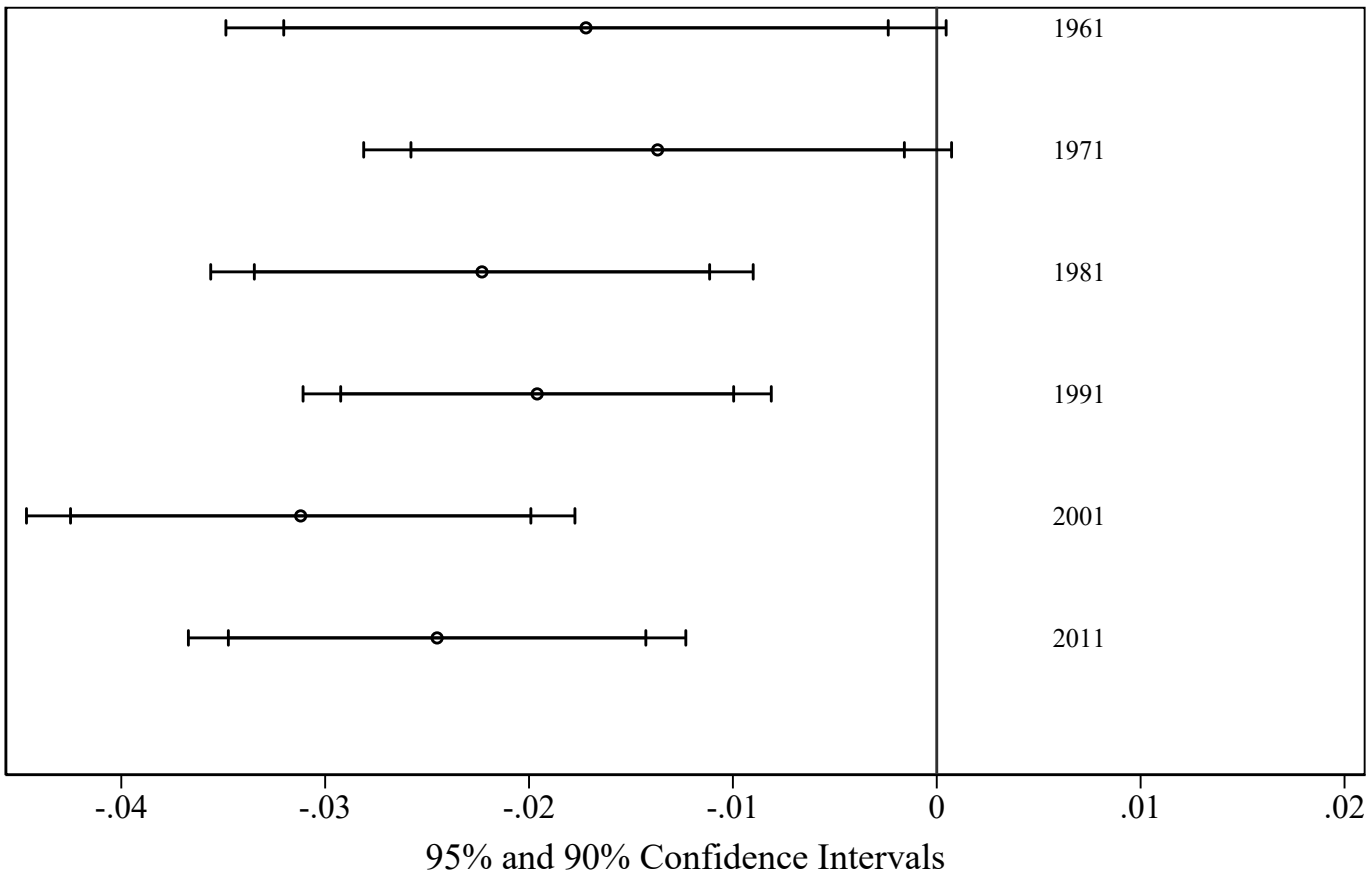
***Significant at 1%, **Significant at 5%, *Significant at 10%. All specifications include a constant and the natural log of population density in 1990. Controls are latitude, longitude, altitude, ruggedness, precipitation, land quality, suitability for dryland rice, suitability for wetland rice, suitability for wheat, and malaria risk. Standard errors clustered by district in parentheses.

Conflict Exposure and Percent Female in 1931

	(1) Percent female	(2) Percent female	(3) Percent female
Conflict exposure	-0.032***	-0.018**	-0.018**
	(0.008)	(0.007)	(0.007)
N	367	361	361
Province FE	No	Yes	Yes
Controls	No	No	Yes

Notes: ***Significant at 1%, **Significant at 5%, *Significant at 10%. All specifications include a constant and the natural log of population density in 1931. Controls are latitude, longitude, altitude, ruggedness, precipitation, land quality, suitability for dryland rice, suitability for wetland rice, suitability for wheat, and malaria risk. Robust standard errors in parentheses.

Conflict Exposure and Percent Female, 1961-2001



Notes. This figure plots estimates of β with all controls and fixed effects.

Epidemiological Approach

	(1) Female	(2) Female	(3) Female
Conflict exposure by language	-0.107***	-0.073***	-0.082*
	(0.013)	(0.021)	(0.040)
N	1,124,125	1,124,125	1,124,055
Fixed Effects	No	District	Cluster
Controls	Individual	Individual	Individual

Notes: ***Significant at 1%, **Significant at 5%, *Significant at 10%. All specifications include a constant. Column (1) includes the natural log of population density in 1990. Individual controls are year of birth of the mother and child. Standard errors clustered by mother tongue in parentheses.

Fertility and Birth Order

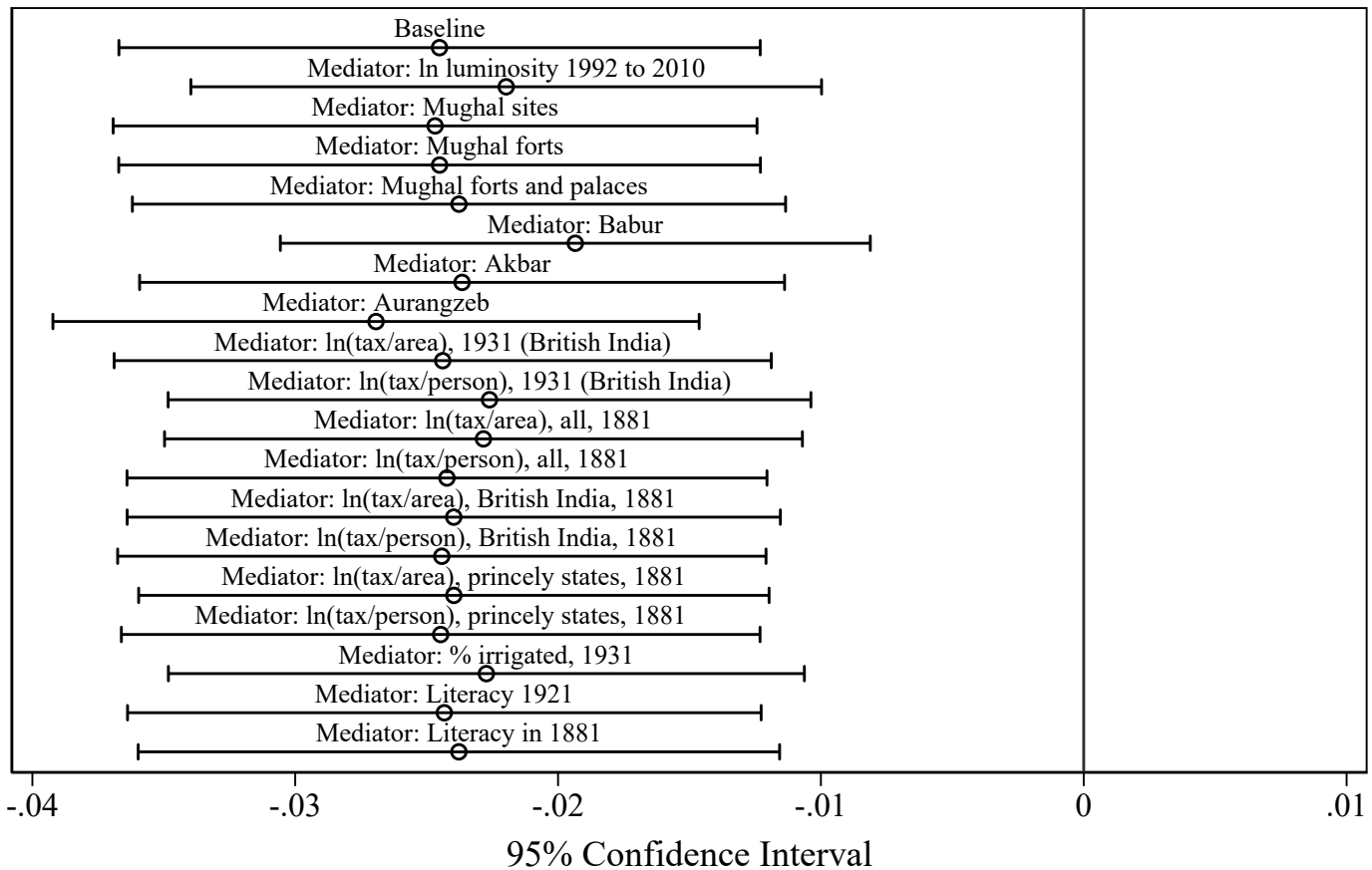
	(1) Female	(2) Female	(3) Female	(4) Female
Pre-colonial conflict exposure	0.004	0.017	-0.072***	-0.096**
	(0.016)	(0.024)	(0.025)	(0.042)
N	443,174	184,311	171,135	58,386
State FE	Yes	Yes	Yes	Yes
Controls	Individual and geographic	Individual and geographic	Individual and geographic	Individual and geographic
Parity	First births	After one boy	After one girl	After two girls

Notes: ***Significant at 1%, **Significant at 5%, *Significant at 10%. All specifications include a constant. Column (1) includes the natural log of population density in 1990. Individual controls are year of birth of the mother and child. Standard errors clustered by mother tongue in parentheses.

Alternative Mechanisms: Overview

- Economic development and state capacity
  - Appendix: Consistent with Dincecco et al. (2022), literacy, body mass index (BMI), and weight are higher for women in more conflict-exposed districts...
  - ...but controlling for several measures of development and state capacity does not affect the results.
  - One explanation: Static mismatch (Nunn 2022).
- Male scarcity
  - Using the Murdock (1967) *Ethnographic Atlas*, we find no evidence that matriliny, male dominance in agriculture, or polygyny respond to conflict exposure.
- Cultural diffusion
  - Controlling for several measures of foreign rule, Muslim rule, and genetic distance from specific cultural groups does not affect the results.
  - Appendix: Excluding conflicts involving "Muslim Conquest," or Mughals, or Europeans, does not change the results.
  - Appendix: Controlling for language and religion does not affect the results.
- Colonial and post-independence conflicts:
  - Appendix: Consistent with Kolff (2013), controlling for these does not generally affect the results.

Alternative Mechanisms: Economic Development and State-Making



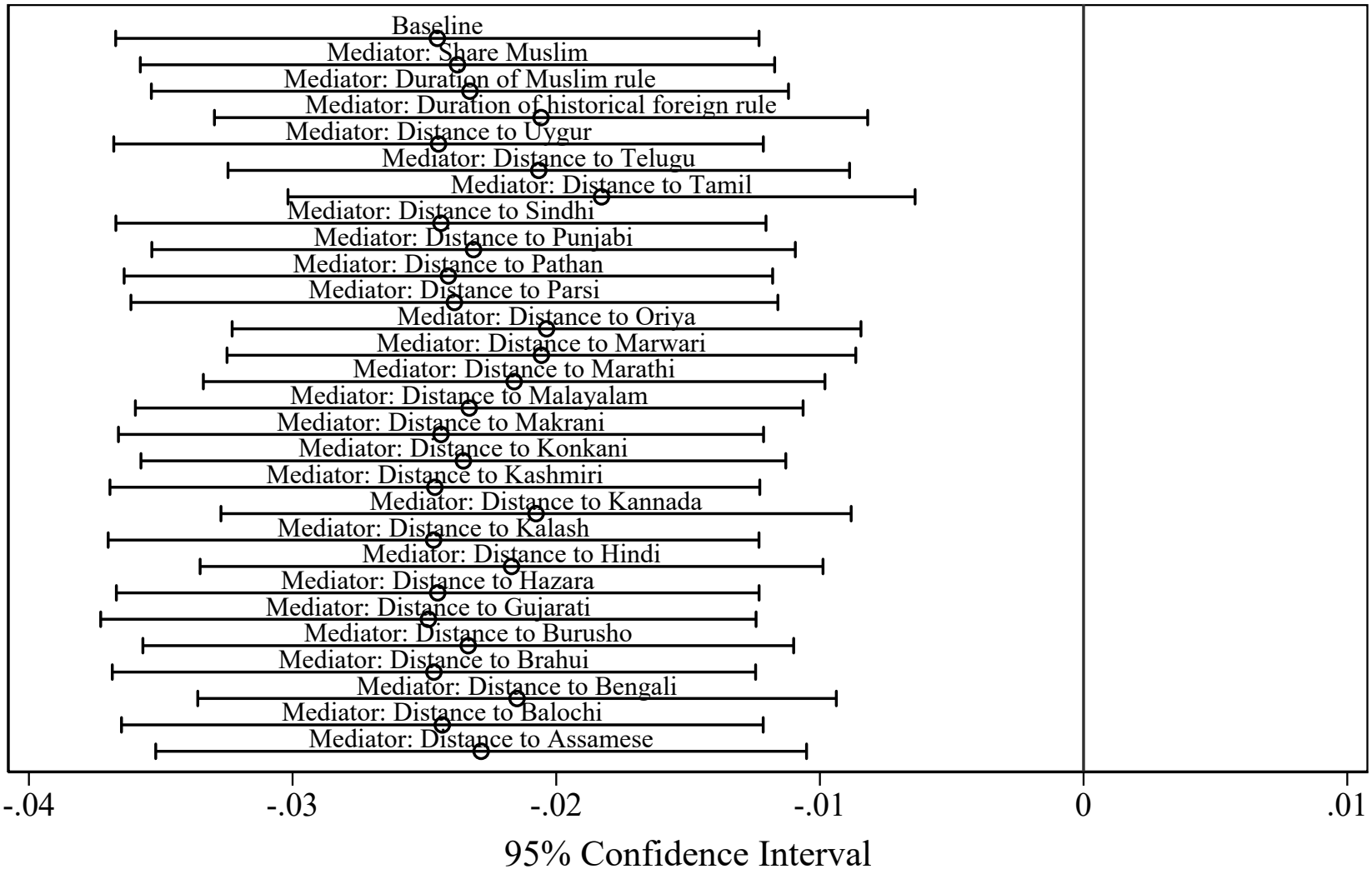
Notes. This figure plots estimates of β with all controls and fixed effects.

Alternative Mechanism: Male Scarcity

	(1)	(2)	(3)
	Polygynous	Polygynous	Polygynous
Pre-colonial conflict exposure	1.263	-2.943	0.997
	(0.899)	(5.367)	(1.317)
N	46	46	46
	Matrilineal	Matrilineal	Matrilineal
Pre-colonial conflict exposure	-0.918	-0.202	-0.556
	(0.562)	(0.362)	(0.573)
N	47	47	47
	Male dominance in agriculture	Male dominance in agriculture	Male dominance in agriculture
Pre-colonial conflict exposure	3.754***	3.729	2.953
	(1.195)	(11.182)	(1.873)
N	36	36	36
State FE	No	Yes	No
Controls	No	No	Yes

Notes: ***Significant at 1%, **Significant at 5%, *Significant at 10%. All specifications include a constant and the natural log of population density in 1990. Controls are latitude, longitude, altitude, ruggedness, precipitation, land quality, suitability for dryland rice, suitability for wetland rice, suitability for wheat, and malaria risk. Robust standard errors in parentheses.

Alternative Mechanism: Cultural Diffusion



Notes. This figure plots estimates of β with all controls and fixed effects.

Conclusion

- We have argued that historical exposure to military conflict produced cultural norms that favored males and male offspring.
- We have shown that exposure to pre-colonial conflict predicts a more male-biased sex ratio and more crimes against women in the present.
- This finding survives several controls, robustness checks, and an IV approach leveraging distance from the Khyber Pass.
- We have shown evidence of transmission via male-biased folkloric traditions, the gender identity of Hindu temple gods, and patrilocal exogamy.
- We have shown evidence for the endurance of male-favoring gender norms across intermediate historical points in time, as well as epidemiological evidence that such norms are portable, as well as evidence that birth order matters.
- How general are our findings?
  - Europe experienced relatively high levels of conflict in the past but has relatively equal gender norms today. . .
  - . . . but gender norms in Europe improved over the twentieth century. . .
  - . . . in the context of mass mobilization wars and industrial landscapes.

Waihand — 1008 — Muslim Conquest of Northern India

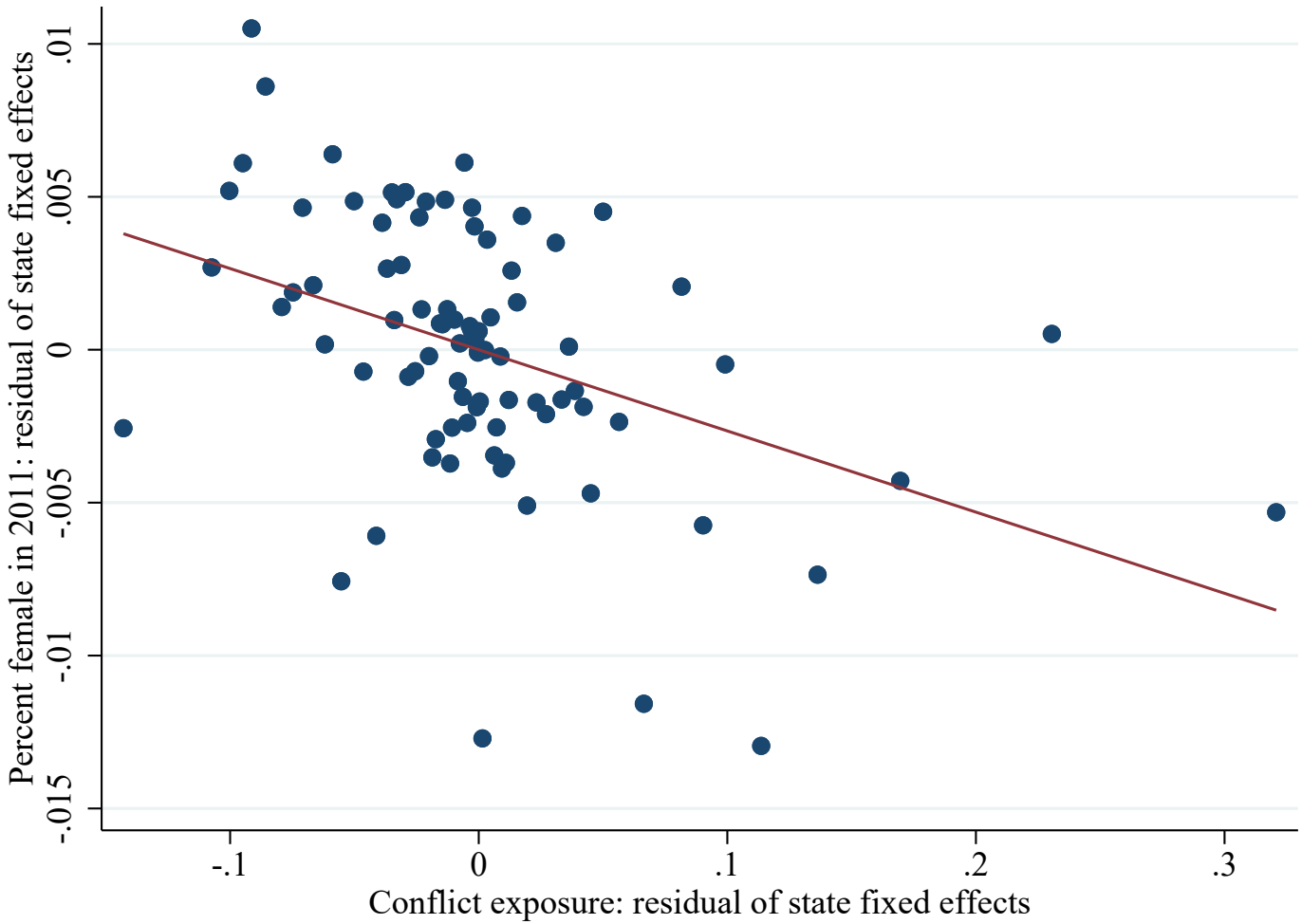
Mahmud of Ghazni led a fresh campaign from Afghanistan into India and met a large Hindu force under Prince Anandpal at the same site as two years earlier. Mahmud's Muslims dispersed the Hindu war-elephants and inflicted a decisive defeat in battle at Waihand, near Peshawar in modern Pakistan. The Afghan's subsequent invasions ravaged much of northern India (31 December 1008).

- Coordinates of Peshawar: 34° 1' 0" N, 71° 35' 0" E.

Summary Statistics

	(1) Mean	(2) s.d.	(3) Min	(4) Max	(5) N
Percent female in 2011	0.49	0.016	0.35	0.54	657
Pre-colonial conflict exposure	0.070	0.096	0	0.60	657
Latitude	23.5	5.65	8.31	34.5	657
Longitude	81.0	6.30	69.5	96.8	657
Altitude	465	688	4	4,915	657
Ruggedness	96,809	158,147	774	851,960	657
Precipitation	1,364	695	200	4,487	657
Land quality	0.45	0.29	0	0.97	657
Dryland rice suitability	628	589	0	1,723	657
Wetland rice suitability	1,438	797	0	2,827	657
Wheat suitability	630	572	0	2,915	657
Malaria risk	0.11	0.34	0	2.81	657

Binned Scatter Plot



Notes. This figure plots the percentage of the population that is female in 2011 against pre-colonial conflict exposure in India. Both variables are residualized by controlling for state fixed effects. This is a binned scatter plot with data aggregated to 100 bins.

Results by Age and Caste

- Which segments of the population drive our findings?
- Pre-colonial conflict predicts a smaller female share across all four age categories enumerated in the census: 0-9, 10-19, 20-39, and 40 and above.
  - Male-biased sex ratios in childhood suggest that our results are not driven solely by the migration of men
  - Male-biased sex ratios at older ages may be indicative of excess female mortality during post-reproductive years (Calvi 2020; Anderson and Ray 2010).
- In the data on births, pre-colonial conflict best predicts a reduced female probability among the "Other Backward Castes."
  - This suggests that historical conflict exposure predicts male-favoring gender norms in the poorer majority of the population, and not solely for the upper-caste population.

Pre-Colonial Conflict Exposure and Percent Female by Age

	(1) Percent female 2011: age 0-9	(2) Percent female 2011: age 10-19	(3) Percent female 2011: age 20-39	(4) Percent female 2011: age 40+
Pre-colonial conflict exposure	-0.023***	-0.037***	-0.024**	-0.015**
	(0.005)	(0.007)	(0.010)	(0.007)
N	657	657	657	657
State FE	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes

Notes: ***Significant at 1%, **Significant at 5%, *Significant at 10%. All specifications include a constant and the natural log of population density in 1990. Controls are latitude, longitude, altitude, ruggedness, precipitation, land quality, suitability for dryland rice, suitability for wetland rice, suitability for wheat, and malaria risk. Robust standard errors in parentheses.

DHS Births Recodes Results by Caste

	(1) Female	(2) Female	(3) Female
General caste			
Pre-colonial conflict exposure	-0.077***	-0.027*	-0.017
	(0.010)	(0.016)	(0.018)
N	224,754	224,754	224,754
Scheduled caste			
Pre-colonial conflict exposure	-0.041***	0.003	0.013
	(0.009)	(0.013)	(0.014)
N	229,478	229,478	229,478
Scheduled tribe			
Pre-colonial conflict exposure	-0.022	-0.008	0.013
	(0.031)	(0.043)	(0.044)
N	230,284	230,284	230,284
Other backward caste			
Pre-colonial conflict exposure	-0.073***	-0.053***	-0.048***
	(0.010)	(0.012)	(0.014)
N	480,450	480,450	480,450
State FE	No	Yes	Yes
Controls	Individual	Individual	Individual and geographic

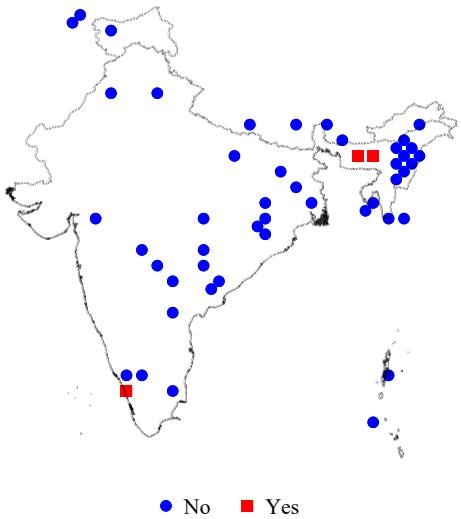
Pre-Colonial Conflict Exposure and Female Living Standards

	(1) Literate	(2) ln BMI	(3) ln weight in kg
Pre-colonial conflict exposure	0.166***	0.065***	0.056***
	(0.055)	(0.014)	(0.017)
N	646,589	639,503	639,700
State FE	Yes	Yes	Yes
Controls	Individual and geographic	Individual and geographic	Individual and geographic

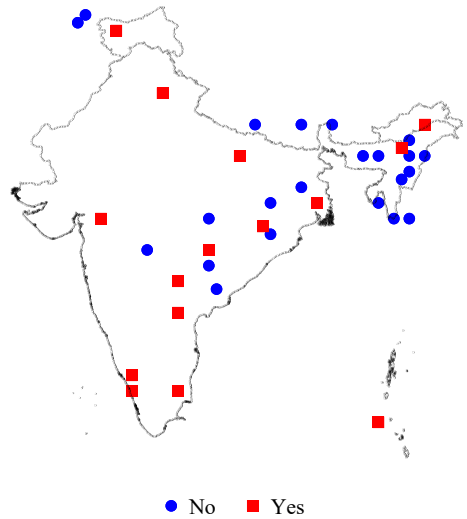
Notes: ***Significant at 1%, **Significant at 5%, *Significant at 10%. All specifications include a constant and the natural log of population density in 1990. Individual controls are year of birth and year of birth squared. Geographic controls are latitude, longitude, altitude, ruggedness, precipitation, land quality, suitability for dryland rice, suitability for wetland rice, suitability for wheat, and malaria risk. Standard errors clustered by district in parentheses.

Maps of Male Scarcity Characteristics in Murdock (1967)

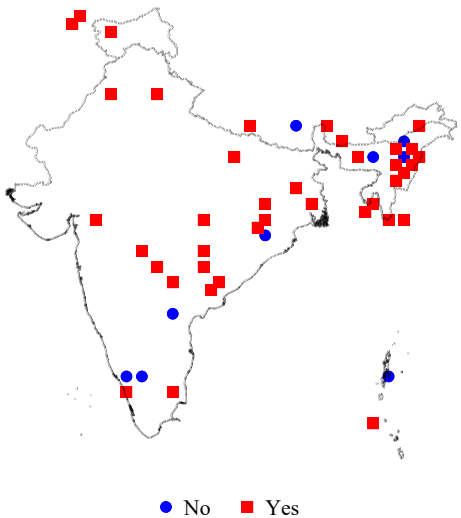
Matrilineal



Male dominance in agriculture



Polygynous

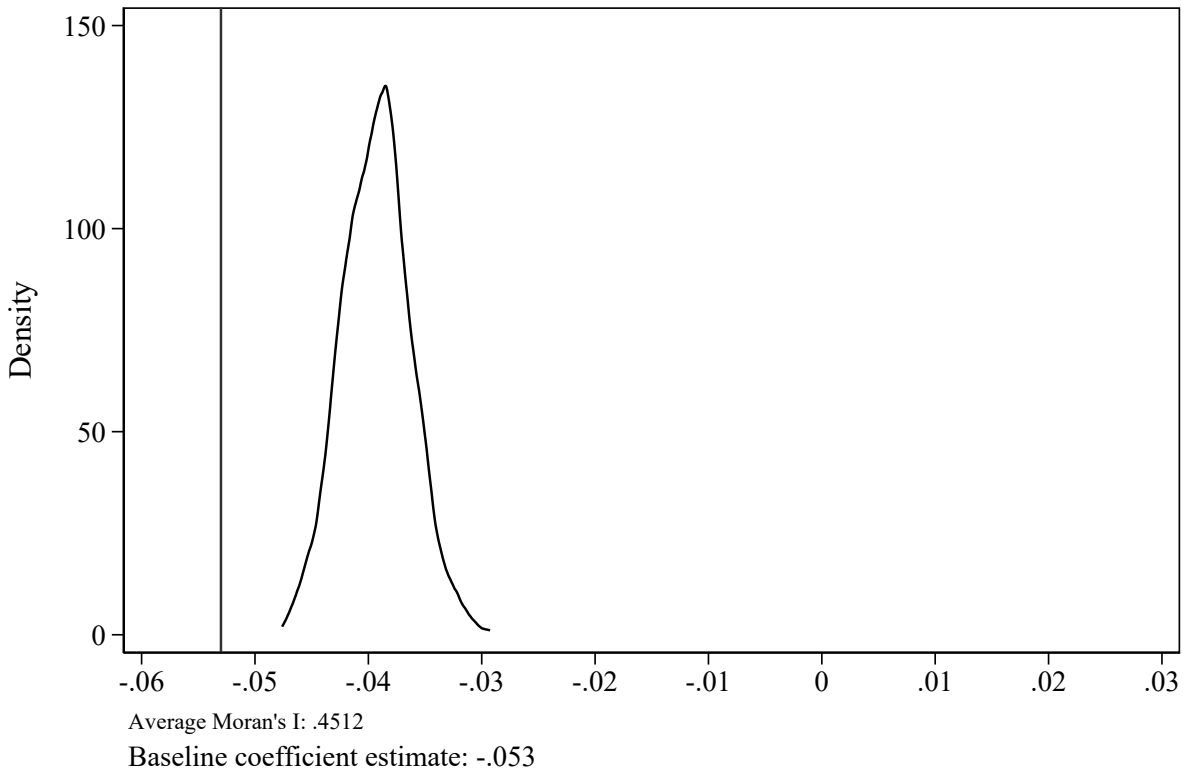


Control for Colonial- and Post-Independence Conflicts

	(1) Percent female in 2011	(2) Percent female in 2011	(3) Percent female in 2011
Pre-colonial conflict exposure	-0.027***	-0.023***	-0.024***
	(0.007)	(0.008)	(0.007)
Colonial conflict exposure (1758-1839)	-0.037**	-0.026**	-0.016
	(0.015)	(0.011)	(0.010)
Colonial conflict exposure (1840-1946)	-0.055***	-0.030***	-0.025***
	(0.006)	(0.008)	(0.008)
Post-colonial conflict exposure (1947-2010)	-0.181***	-0.095	-0.133
	(0.033)	(0.155)	(0.100)
N	657	657	657
State FE	No	Yes	Yes
Controls	No	No	Yes

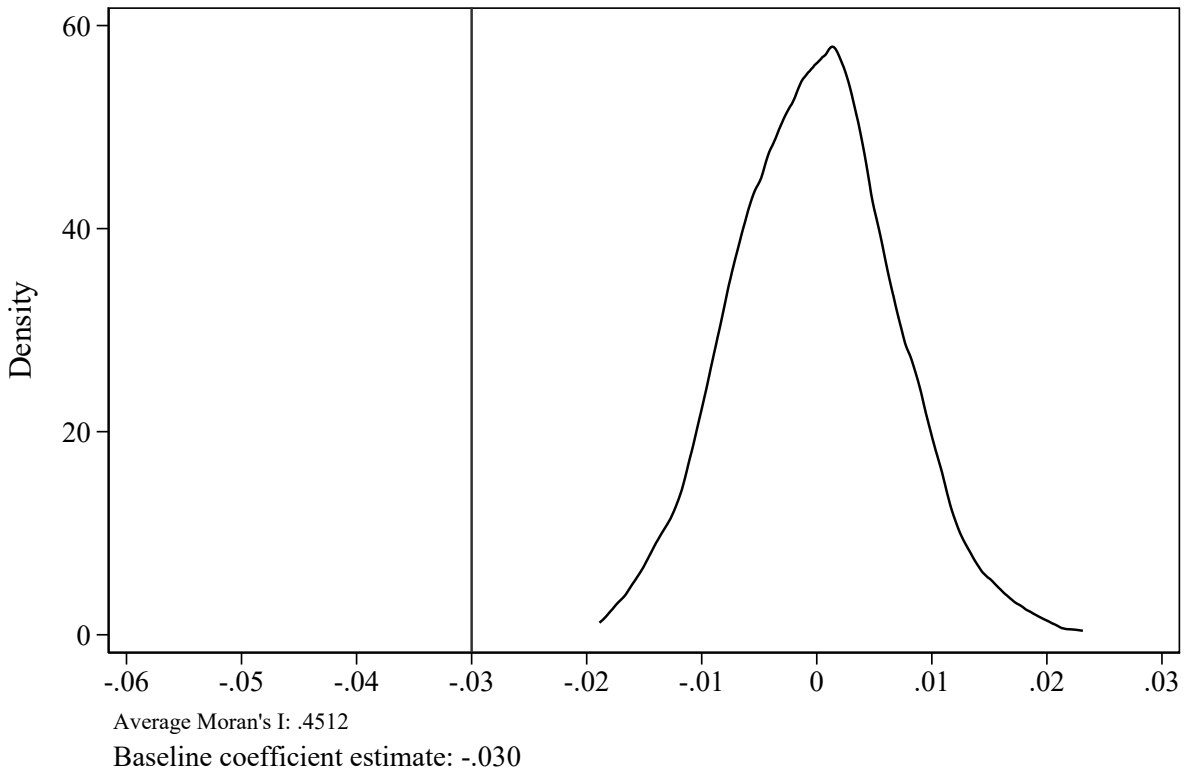
Notes: ***Significant at 1%, **Significant at 5%, *Significant at 10%. All specifications include a constant and the natural log of population density in 1990. Controls are latitude, longitude, altitude, ruggedness, precipitation, land quality, suitability for dryland rice, suitability for wetland rice, suitability for wheat, and malaria risk. Robust standard errors in parentheses.

Artificial Spatially-Correlated Noise Placebo Variables (Column 1)



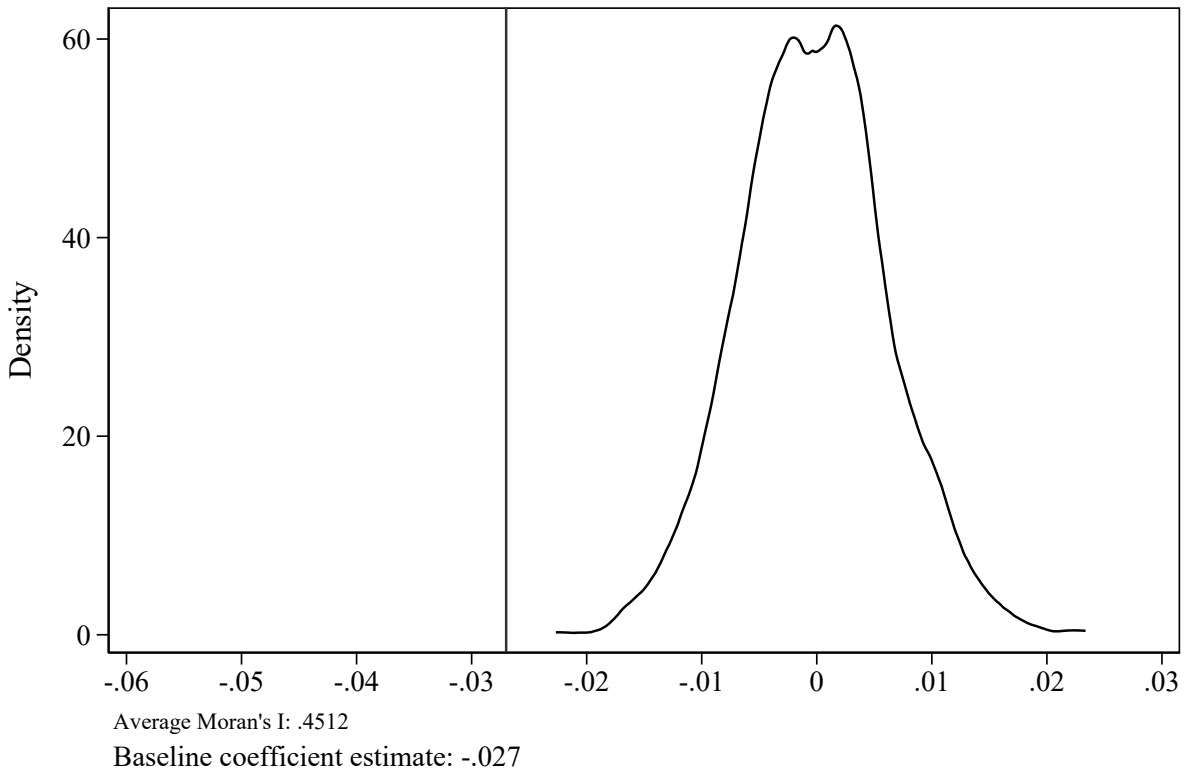
Notes. This figure shows the results of tests that generate artificial spatially-correlated noise placebo variables to replace our variable of interest, reallocating conflict exposure randomly across districts within a state (without replacement).

Artificial Spatially-Correlated Noise Placebo Variables (Column 2)



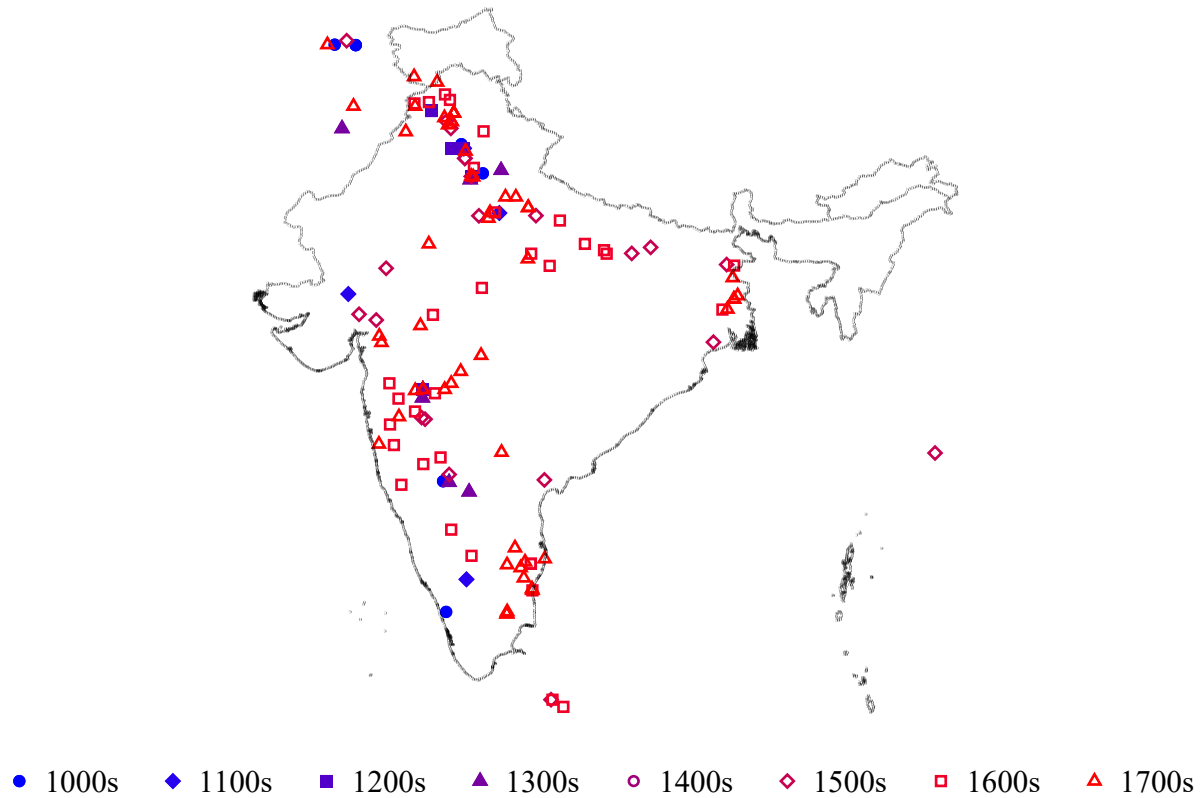
Notes. This figure shows the results of tests that generate artificial spatially-correlated noise placebo variables to replace our variable of interest, reallocating conflict exposure randomly across districts within a state (without replacement).

Artificial Spatially-Correlated Noise Placebo Variables (Column 3)



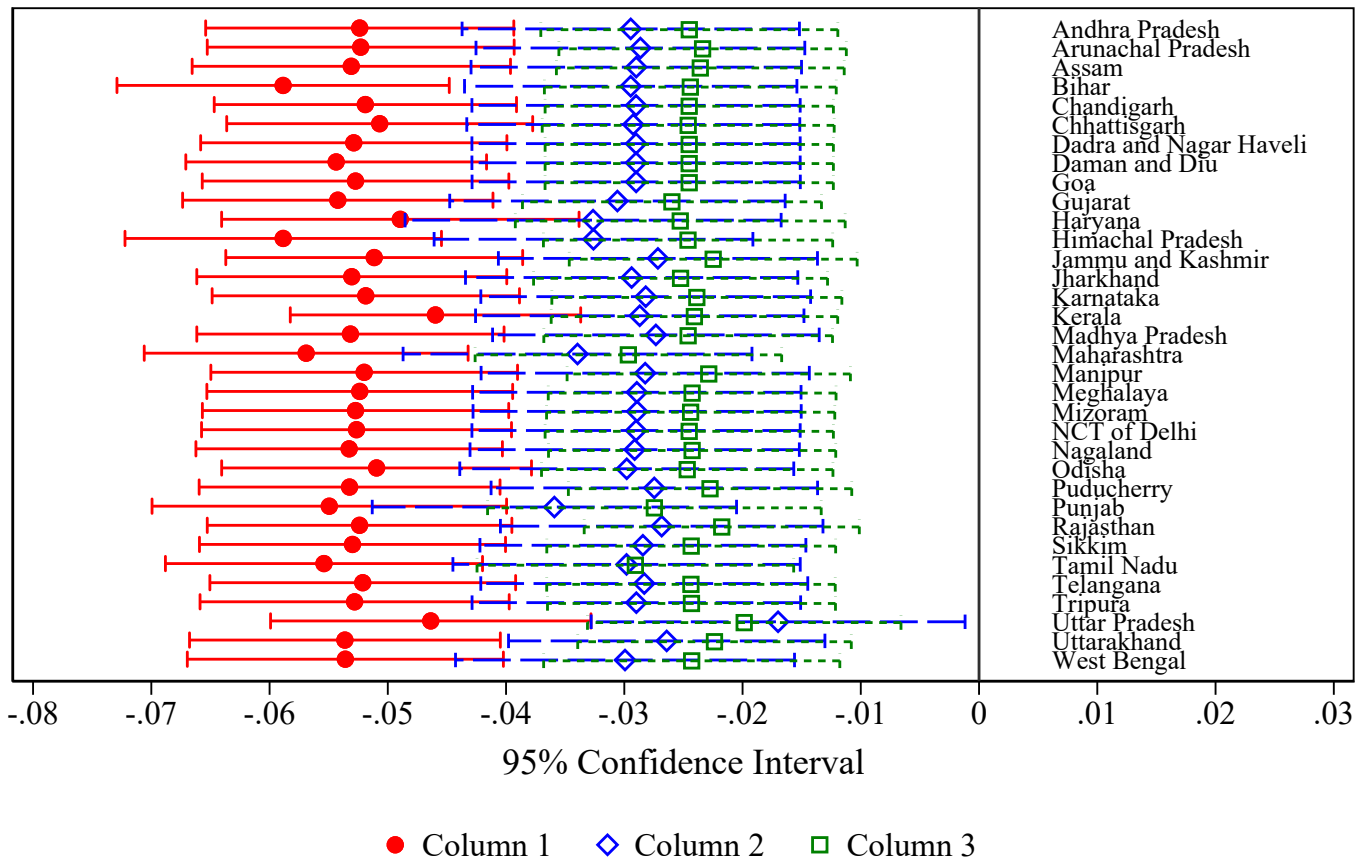
Notes. This figure shows the results of tests that generate artificial spatially-correlated noise placebo variables to replace our variable of interest, reallocating conflict exposure randomly across districts within a state (without replacement).

Pre-Colonial Land Battles by Century



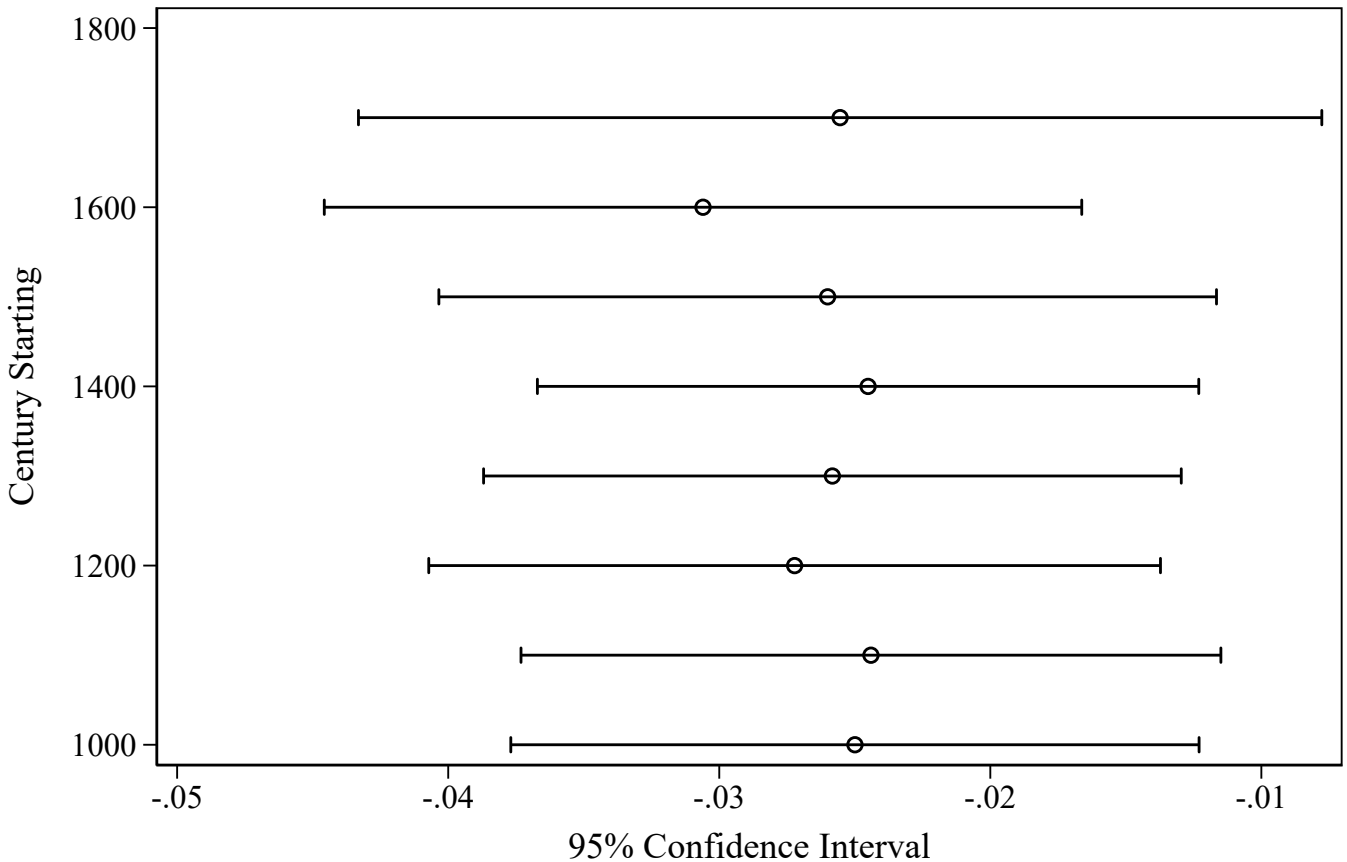
Notes. This map shows land battles in South Asia between 1000 and 1757 in Jaques (2007) by the century of the start date.

Drop States One at a Time



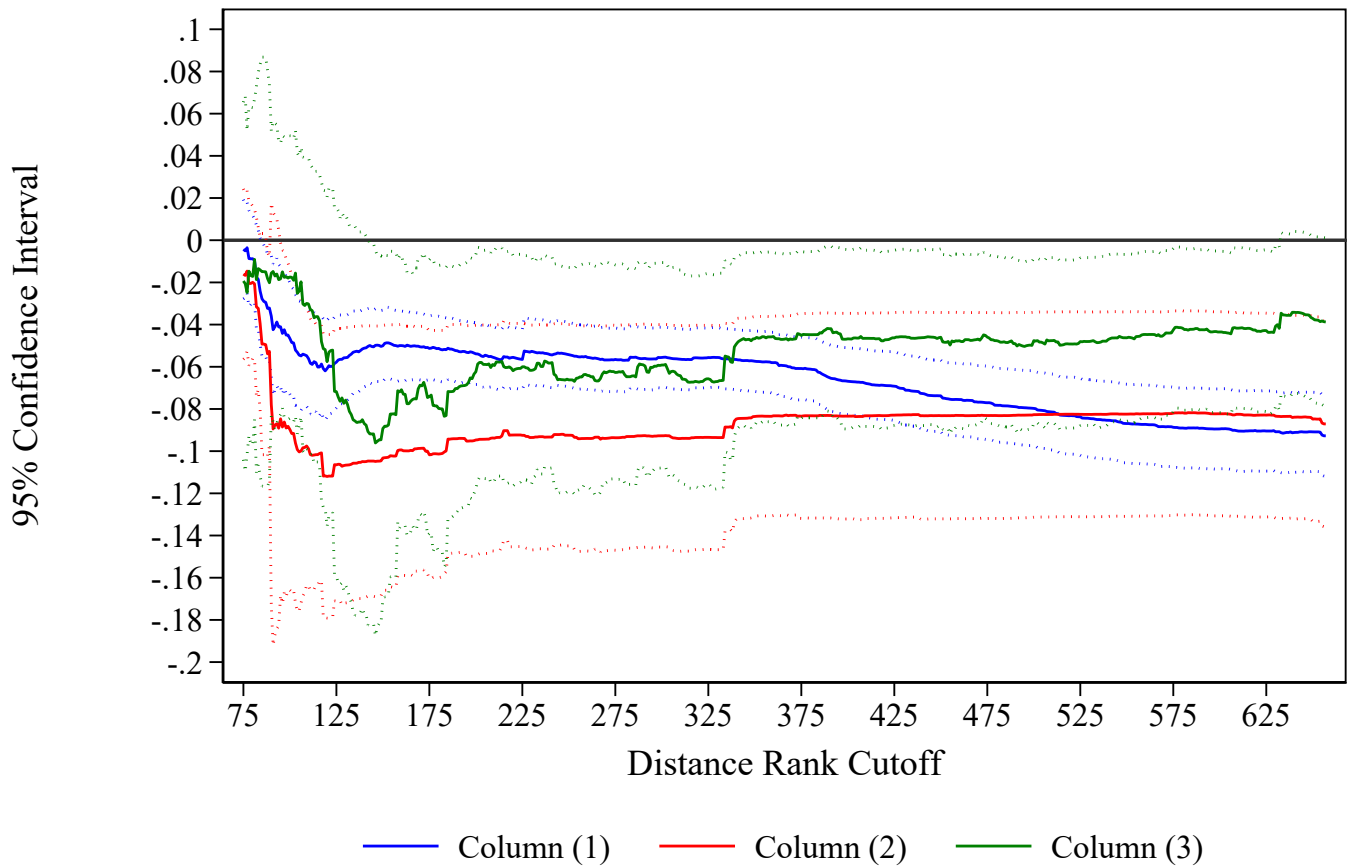
Notes. This figure shows the results of dropping each state or union territory in turn.

Drop Centuries One at a Time



Notes. This figure shows the results of dropping each century in turn.

Limit Sample by Cost Distance from the Khyber Pass



Notes. This figure shows the results of re-estimating the IV results but restricting the sample to only the x districts closest to the Khyber Pass by cost distance. x is the value on the x axis. Coefficient estimates are solid lines and 95 percent confidence intervals are dotted.

Birth-Level Results by Cell and Tehsil

Panel A: By Cell

	(1) Female	(2) Female	(3) Female
Pre-colonial conflict exposure	-0.067***	-0.032***	-0.021**
	(0.008)	(0.009)	(0.010)
N	1,134,611	1,134,611	1,134,611
State FE	No	Yes	Yes
Controls	Individual	Individual	Individual and geographic

Panel B: By Tehsil

	(1) Female	(2) Female	(3) Female
Pre-colonial conflict exposure	-0.065***	-0.032***	-0.021**
	(0.007)	(0.008)	(0.009)
N	1,220,798	1,220,798	1,220,798
State FE	No	Yes	Yes
Controls	Individual	Individual	Individual and geographic

Population Density as a Control

Panel A: Exclude Population Density

	(1) Percent female in 2011	(2) Percent female in 2011	(3) Percent female in 2011
Pre-colonial conflict exposure	-0.048***	-0.027***	-0.027***
	(0.006)	(0.007)	(0.006)
N	657	657	657
State FE	No	Yes	Yes
Controls	No	No	Yes

Panel B: Control for Population Density in 1000AD

	(1) Percent female in 2011	(2) Percent female in 2011	(3) Percent female in 2011
Pre-colonial conflict exposure	-0.053***	-0.030***	-0.026***
	(0.006)	(0.007)	(0.006)
N	657	657	657
State FE	No	Yes	Yes
Controls	No	No	Yes

***Significant at 1%, **Significant at 5%, *Significant at 10%. All specifications include a constant. Controls are latitude, longitude, altitude, ruggedness, precipitation, land quality, suitability for dryland rice, suitability for wetland rice, suitability for wheat, and malaria risk. Panel (b) includes the natural log of population density in 1000AD as a control. Robust standard errors in parentheses.

Include $3^\circ \times 3^\circ$ Cell Fixed Effects

	(1) Percent female in 2011	(2) Percent female in 2011
Pre-colonial conflict exposure	-0.017*	-0.021**
	(0.010)	(0.009)
N	657	657
Cell FE	Yes	Yes
Controls	No	Yes

Notes: ***Significant at 1%, **Significant at 5%, *Significant at 10%. All specifications include a constant and the natural log of population density in 1990. Controls are latitude, longitude, altitude, ruggedness, precipitation, land quality, suitability for dryland rice, suitability for wetland rice, suitability for wheat, and malaria risk. Robust standard errors in parentheses.

Conley (1999) Standard Errors

	(1) Percent female in 2011	(2) Percent female in 2011	(3) Percent female in 2011
Pre-colonial conflict exposure	-0.053***	-0.029**	-0.025***
250 km	(0.013)	(0.012)	(0.009)
500 km	(0.014)	(0.012)	(0.006)
750 km	(0.013)	(0.012)	(0.006)
1000 km	(0.011)	(0.011)	(0.006)
1250 km	(0.008)	(0.009)	(0.005)
1500 km	(0.007)	(0.008)	(0.005)
N	657	657	657
State FE	No	Yes	Yes
Controls	No	No	Yes

***Significant at 1%, **Significant at 5%, *Significant at 10%. Significance is for a cutoff of 250 km. All specifications include a constant and the natural log of population density in 1990. Controls are latitude, longitude, altitude, ruggedness, precipitation, land quality, suitability for dryland rice, suitability for wetland rice, suitability for wheat, and malaria risk. Conley (1999) standard errors in parentheses using various distance cutoffs, following Collela et al. (2019).

Standard Errors Clustered by State

	(1) Percent female in 2011	(2) Percent female in 2011	(3) Percent female in 2011
Pre-colonial conflict exposure	-0.053***	-0.029**	-0.025***
	(0.013)	(0.013)	(0.008)
N	657	657	657
State FE	No	Yes	Yes
Controls	No	No	Yes
WCB p	0.0171	0.0581	0.00690

***Significant at 1%, **Significant at 5%, *Significant at 10%. Significance is for state-level clustering. All specifications include a constant and the natural log of population density in 1990. Controls are latitude, longitude, altitude, ruggedness, precipitation, land quality, suitability for dryland rice, suitability for wetland rice, suitability for wheat, and malaria risk. Standard errors in parentheses clustered by state. WCB p-value refers to a wild cluster bootstrap clustered by state with 9,999 repetitions.

Control for a Polynomial in Latitude and Longitude

	(1) Percent female in 2011	(2) Percent female in 2011	(3) Percent female in 2011
Pre-colonial conflict exposure	-0.024***	-0.019***	-0.023***
	(0.006)	(0.007)	(0.006)
N	657	657	657
State FE	No	Yes	Yes
Controls	No	No	Yes

Notes: ***Significant at 1%, **Significant at 5%, *Significant at 10%. All specifications include a constant and the natural log of population density in 1990. Controls are latitude, longitude, altitude, ruggedness, precipitation, land quality, suitability for dryland rice, suitability for wetland rice, suitability for wheat, and malaria risk. Robust standard errors in parentheses. All specifications further control for latitude, longitude, the interaction of latitude and longitude, latitude squared, and longitude squared.

Include All Conflict Types

	(1) Percent female in 2011	(2) Percent female in 2011	(3) Percent female in 2011
Pre-colonial conflict exposure	-0.024***	-0.019***	-0.023***
	(0.006)	(0.007)	(0.006)
N	657	657	657
State FE	No	Yes	Yes
Controls	No	No	Yes

Notes: ***Significant at 1%, **Significant at 5%, *Significant at 10%. All specifications include a constant and the natural log of population density in 1990. Controls are latitude, longitude, altitude, ruggedness, precipitation, land quality, suitability for dryland rice, suitability for wetland rice, suitability for wheat, and malaria risk. Robust standard errors in parentheses.

Include Only Conflicts Within India

	(1) Percent female in 2011	(2) Percent female in 2011	(3) Percent female in 2011
Conflict exposure (India only)	-0.053***	-0.029***	-0.024***
	(0.007)	(0.007)	(0.006)
N	657	657	657
State FE	No	Yes	Yes
Controls	No	No	Yes

Notes: ***Significant at 1%, **Significant at 5%, *Significant at 10%. All specifications include a constant and the natural log of population density in 1990. Controls are latitude, longitude, altitude, ruggedness, precipitation, land quality, suitability for dryland rice, suitability for wetland rice, suitability for wheat, and malaria risk. Robust standard errors in parentheses.

Include Conflicts from Clodfelter (2002) and Naravane (1996)

Panel A: with Clodfelter (2002)

	(1) Percent female in 2011	(2) Percent female in 2011	(3) Percent female in 2011
With Clodfelter	-0.052***	-0.029***	-0.025***
	(0.007)	(0.007)	(0.006)
N	657	657	657
State FE	No	Yes	Yes
Controls	No	No	Yes

***Significant at 1%, **Significant at 5%, *Significant at 10%. All specifications include a constant. Controls are latitude, longitude, altitude, ruggedness, precipitation, land quality, suitability for dryland rice, suitability for wetland rice, suitability for wheat, and malaria risk. Robust standard errors in parentheses.

Include Conflicts from Clodfelter (2002) and Naravane (1996)

Panel B: with Clodfelter (2002) and Naravane (1996)

	(1) Percent female in 2011	(2) Percent female in 2011	(3) Percent female in 2011
With Clodfelter and Navarane	-0.051***	-0.025***	-0.021***
	(0.006)	(0.007)	(0.006)
N	657	657	657
State FE	No	Yes	Yes
Controls	No	No	Yes

***Significant at 1%, **Significant at 5%, *Significant at 10%. All specifications include a constant. Controls are latitude, longitude, altitude, ruggedness, precipitation, land quality, suitability for dryland rice, suitability for wetland rice, suitability for wheat, and malaria risk. Robust standard errors in parentheses.

Exposure to Conflicts in Brecke

	(1) Percent female in 2011	(2) Percent female in 2011	(3) Percent female in 2011
Exposure to Brecke conflicts	-0.065***	-0.061***	-0.045***
	(0.017)	(0.014)	(0.012)
N	657	657	657
State FE	No	Yes	Yes
Controls	No	No	Yes

Notes: ***Significant at 1%, **Significant at 5%, *Significant at 10%. All specifications include a constant and the natural log of population density in 1990. Controls are latitude, longitude, altitude, ruggedness, precipitation, land quality, suitability for dryland rice, suitability for wetland rice, suitability for wheat, and malaria risk. Robust standard errors in parentheses.

Exposure to Battles in Wikidata

	(1) Percent female in 2011	(2) Percent female in 2011	(3) Percent female in 2011
Exposure to Wikidata battles	-0.245***	-0.115***	-0.106***
	(0.040)	(0.035)	(0.039)
N	657	657	657
State FE	No	Yes	Yes
Controls	No	No	Yes

Notes: ***Significant at 1%, **Significant at 5%, *Significant at 10%. All specifications include a constant and the natural log of population density in 1990. Controls are latitude, longitude, altitude, ruggedness, precipitation, land quality, suitability for dryland rice, suitability for wetland rice, suitability for wheat, and malaria risk. Robust standard errors in parentheses.

Control for Exposure to Multi-Day and Multi-Year Conflicts

	(1) Percent female in 2011	(2) Percent female in 2011	(3) Percent female in 2011
Pre-colonial conflict exposure	-0.070***	-0.026***	-0.021***
	(0.008)	(0.008)	(0.007)
Multi-day exposure	0.010	0.000	-0.004
	(0.015)	(0.011)	(0.008)
Multi-year exposure	0.390***	-0.082	-0.051
	(0.091)	(0.079)	(0.071)
N	657	657	657
State FE	No	Yes	Yes
Controls	No	No	Yes

Notes: ***Significant at 1%, **Significant at 5%, *Significant at 10%. All specifications include a constant and the natural log of population density in 1990. Controls are latitude, longitude, altitude, ruggedness, precipitation, land quality, suitability for dryland rice, suitability for wetland rice, suitability for wheat, and malaria risk. Robust standard errors in parentheses.

Exposure to Conflicts Including before 1000CE

	(1) Percent female in 2011	(2) Percent female in 2011	(3) Percent female in 2011
Exposure including before 1000AD	-0.046***	-0.029***	-0.023***
	(0.007)	(0.006)	(0.006)
N	657	657	657
State FE	No	Yes	Yes
Controls	No	No	Yes

Notes: ***Significant at 1%, **Significant at 5%, *Significant at 10%. All specifications include a constant and the natural log of population density in 1990. Controls are latitude, longitude, altitude, ruggedness, precipitation, land quality, suitability for dryland rice, suitability for wetland rice, suitability for wheat, and malaria risk. Robust standard errors in parentheses.

Exposure to Conflicts Up to British Annexation

	(1) Percent female in 2011	(2) Percent female in 2011	(3) Percent female in 2011
Land exposure: before annexation	-0.037***	-0.024***	-0.014***
	(0.004)	(0.005)	(0.004)
N	377	377	377
State FE	No	Yes	Yes
Controls	No	No	Yes

Notes: ***Significant at 1%, **Significant at 5%, *Significant at 10%. All specifications include a constant and the natural log of population density in 1990. Controls are latitude, longitude, altitude, ruggedness, precipitation, land quality, suitability for dryland rice, suitability for wetland rice, suitability for wheat, and malaria risk. Robust standard errors in parentheses.

Exposure to Conflicts Up to 5,000 km Away

	(1) Percent female in 2011	(2) Percent female in 2011	(3) Percent female in 2011
Conflict exposure up to 5000 km	-0.055***	-0.032***	-0.024***
	(0.006)	(0.008)	(0.007)
N	657	657	657
State FE	No	Yes	Yes
Controls	No	No	Yes

Notes: ***Significant at 1%, **Significant at 5%, *Significant at 10%. All specifications include a constant and the natural log of population density in 1990. Controls are latitude, longitude, altitude, ruggedness, precipitation, land quality, suitability for dryland rice, suitability for wetland rice, suitability for wheat, and malaria risk. Robust standard errors in parentheses.

Include Only Districts with Positive Conflict Exposure

	(1) Percent female in 2011	(2) Percent female in 2011	(3) Percent female in 2011
Pre-colonial conflict exposure	-0.044***	-0.024***	-0.017***
	(0.007)	(0.007)	(0.006)
N	505	505	505
State FE	No	Yes	Yes
Controls	No	No	Yes

Notes: ***Significant at 1%, **Significant at 5%, *Significant at 10%. All specifications include a constant and the natural log of population density in 1990. Controls are latitude, longitude, altitude, ruggedness, precipitation, land quality, suitability for dryland rice, suitability for wetland rice, suitability for wheat, and malaria risk. Robust standard errors in parentheses.

Alternative Conflict Exposure Measures: Standardized Coefficients

	(1) Percent female in 2011	(2) Percent female in 2011	(3) Percent female in 2011	(4) Percent female in 2011
Exposure: by capital	-0.031			
	(0.020)			
Exposure: capital as battle location		-0.156***		
		(0.038)		
Exposure: convex hull by actor			-0.086	
			(0.062)	
Exposure: convex hull by title				-0.171***
				(0.050)
N	657	657	657	657
State FE	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes

Sex Ratio as Outcome

	(1) Male to Female Sex Ratio	(2) Male to Female Sex Ratio	(3) Male to Female Sex Ratio
Pre-colonial conflict exposure	0.226***	0.124***	0.106***
	(0.029)	(0.031)	(0.027)
N	657	657	657
State FE	No	Yes	Yes
Controls	No	No	Yes

Notes: ***Significant at 1%, **Significant at 5%, *Significant at 10%. All specifications include a constant and the natural log of population density in 1990. Controls are latitude, longitude, altitude, ruggedness, precipitation, land quality, suitability for dryland rice, suitability for wetland rice, suitability for wheat, and malaria risk. Robust standard errors in parentheses.

Pre-Colonial Conflict Exposure and Crimes Against Women: By Type

	(1)	(2)	(3)
IHS rape			
Pre-colonial conflict exposure	0.343	0.577**	0.520*
	(0.262)	(0.273)	(0.277)
IHS kidnapping and abduction			
Pre-colonial conflict exposure	1.252***	0.643**	0.238
	(0.290)	(0.316)	(0.318)
IHS dowry deaths			
Pre-colonial conflict exposure	0.483**	1.035***	1.046***
	(0.235)	(0.230)	(0.223)
IHS assault with intent to outrage her modesty			
Pre-colonial conflict exposure	-0.027	0.195	-0.313
	(0.340)	(0.295)	(0.308)
IHS insult to modesty of women			
Pre-colonial conflict exposure	1.359***	0.559	0.363
	(0.338)	(0.393)	(0.402)
IHS cruelty by husband or his relatives			
Pre-colonial conflict exposure	0.859**	1.998***	1.465***
	(0.340)	(0.378)	(0.366)
IHS importation of girls			
Pre-colonial conflict exposure	-0.057***	-0.012	-0.027**
	(0.017)	(0.011)	(0.013)
Year FE	Yes	Yes	Yes
State FE	No	Yes	Yes
Controls	No	No	Yes

Notes: ***Significant at 1%, **Significant at 5%, *Significant at 10%. All specifications include a constant and the natural log of population density in 1990. Controls are latitude, longitude, altitude, ruggedness, precipitation, land quality, suitability for dryland rice, suitability for wetland rice, suitability for wheat, and malaria risk. All specifications also include year fixed effects. Standard errors clustered by district in parentheses.

Additional Geographic Controls

	(1) Percent female in 2011	(2) Percent female in 2011	(3) Percent female in 2011
Pre-colonial conflict exposure	-0.016***	-0.018***	-0.018***
	(0.006)	(0.006)	(0.006)
N	649	649	649
State FE	No	Yes	Yes
Controls	No	No	Yes

Notes: ***Significant at 1%, **Significant at 5%, *Significant at 10%. All specifications include a constant and the natural log of population density in 1990. Controls are latitude, longitude, altitude, ruggedness, precipitation, land quality, suitability for dryland rice, suitability for wetland rice, suitability for wheat, and malaria risk. Robust standard errors in parentheses. All columns additionally control for the log of (one plus) the distance to the nearest coast, river presence, irrigation potential, rainfall variation, the log of (one plus) the distance to the nearest resource deposits (diamonds, gems, gold, petroleum), and the percentage of forested area.

Drop Coastal Districts

	(1) Percent female in 2011	(2) Percent female in 2011	(3) Percent female in 2011
Pre-colonial conflict exposure	-0.050***	-0.032***	-0.028***
	(0.006)	(0.007)	(0.006)
N	582	582	582
State FE	No	Yes	Yes
Controls	No	No	Yes

Notes: ***Significant at 1%, **Significant at 5%, *Significant at 10%. All specifications include a constant and the natural log of population density in 1990. Controls are latitude, longitude, altitude, ruggedness, precipitation, land quality, suitability for dryland rice, suitability for wetland rice, suitability for wheat, and malaria risk. Robust standard errors in parentheses. .

Control for Plough Positive and Negative Crop Suitability

	(1) Percent female in 2011	(2) Percent female in 2011	(3) Percent female in 2011
Pre-colonial conflict exposure	-0.030***	-0.027***	-0.024***
	(0.005)	(0.007)	(0.006)
Plough positive environment	-0.002	-0.002	-0.006*
	(0.002)	(0.003)	(0.003)
Plough negative environment	0.021***	0.025***	0.032***
	(0.002)	(0.003)	(0.007)
N	657	657	657
State FE	No	Yes	Yes
Controls	No	No	Yes

Notes: ***Significant at 1%, **Significant at 5%, *Significant at 10%. All specifications include a constant and the natural log of population density in 1990. Controls are latitude, longitude, altitude, ruggedness, precipitation, land quality, suitability for dryland rice, suitability for wetland rice, suitability for wheat, and malaria risk. Robust standard errors in parentheses.

Control for Clay and Loam Shares

	(1) Percent female in 2011	(2) Percent female in 2011	(3) Percent female in 2011
Pre-colonial conflict exposure	-0.030***	-0.027***	-0.025***
	(0.006)	(0.007)	(0.006)
Share Loam in HWSD2	0.008***	0.002	-0.002
	(0.002)	(0.002)	(0.002)
Share Clay in HWSD2	0.016***	0.005***	0.000
	(0.002)	(0.002)	(0.002)
N	657	657	657
State FE	No	Yes	Yes
Controls	No	No	Yes

Notes: ***Significant at 1%, **Significant at 5%, *Significant at 10%. All specifications include a constant and the natural log of population density in 1990. Controls are latitude, longitude, altitude, ruggedness, precipitation, land quality, suitability for dryland rice, suitability for wetland rice, suitability for wheat, and malaria risk. Robust standard errors in parentheses.

Control for Initial State Capacity

Panel A:

	(1) Percent female in 2011	(2) Percent female in 2011	(3) Percent female in 2011	(4) Percent female in 2011
Pre-colonial conflict exposure	-0.025***	-0.025***	-0.024***	-0.025***
	(0.006)	(0.006)	(0.006)	(0.006)
N	657	657	657	657
Additional Control	Neolithic Sites	Chalcolithic Sites	Sites 300 to 700AD	Sites 8th to 12th Centuries
State FE	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes

Panel B:

	(1) Percent female in 2011	(2) Percent female in 2011	(3) Percent female in 2011	(4) Percent female in 2011
Pre-colonial conflict exposure	-0.025***	-0.014**	-0.023***	-0.021***
	(0.006)	(0.007)	(0.006)	(0.006)
N	657	657	657	657
Additional Control	Urban Population in 1000AD	10th or 11th Century State	11th or 12th Century State	State in 1525
State FE	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes

Control for Initial Gender Norms

	(1) Percent female in 2011	(2) Percent female in 2011	(3) Percent female in 2011
Pre-colonial conflict exposure	-0.053***	-0.029***	-0.025***
	(0.007)	(0.007)	(0.006)
Female temples 8th-12th centuries	0.002	0.001	0.001
	(0.001)	(0.001)	(0.001)
N	657	657	657
State FE	No	Yes	Yes
Controls	No	No	Yes

Notes: ***Significant at 1%, **Significant at 5%, *Significant at 10%. All specifications include a constant and the natural log of population density in 1990. Controls are latitude, longitude, altitude, ruggedness, precipitation, land quality, suitability for dryland rice, suitability for wetland rice, suitability for wheat, and malaria risk. Robust standard errors in parentheses.

Control for Pre-Colonial Combatants

	(1) Percent female in 2011	(2) Percent female in 2011	(3) Percent female in 2011	(4) Percent female in 2011	(5) Percent female in 2011
Pre-colonial conflict exposure	-0.023***				
	(0.006)				
Pasture suitability	0.008*				
	(0.004)				
Exposure without non-south Asians		-0.025***			
		(0.009)			
Exposure without mughal conflicts			-0.038***		
			(0.010)		
Exposure without Muslim conquest				-0.023***	
				(0.006)	
Exposure to maratha conflicts					-0.041***
					(0.011)
N	657	657	657	657	657
State FE	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes

Notes: ***Significant at 1%, **Significant at 5%, *Significant at 10%. All specifications include a constant and the natural log of population density in 1990. Controls are latitude, longitude, altitude, ruggedness, precipitation, land quality, suitability for dryland rice, suitability for wetland rice, suitability for wheat, and malaria risk. Robust standard errors in parentheses.

Control for British Colonialism

	(1) Percent female in 2011	(2) Percent female in 2011	(3) Percent female in 2011	(4) Percent female in 2011
Pre-colonial conflict exposure	-0.022***	-0.024***	-0.022***	-0.030***
	(0.006)	(0.006)	(0.006)	(0.009)
N	634	657	657	601
Specification	Control for Direct Rule	Control for Share non-Landlord	Control for Year of First Railroad	Drop historic Punjab
State FE	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes

Notes: ***Significant at 1%, **Significant at 5%, *Significant at 10%. All specifications include a constant and the natural log of population density in 1990. Controls are latitude, longitude, altitude, ruggedness, precipitation, land quality, suitability for dryland rice, suitability for wetland rice, suitability for wheat, and malaria risk. Robust standard errors in parentheses.

Include Pakistan and Bangladesh

	(1) Female	(2) Female	(3) Female
Pre-colonial conflict exposure	-0.067***	-0.031***	-0.020**
	(0.007)	(0.009)	(0.009)
N	1,319,051	1,319,051	1,319,051
State FE	No	Yes	Yes
Controls	Individual	Individual	Individual and geographic

Notes: ***Significant at 1%, **Significant at 5%, *Significant at 10%. All specifications include a constant and the natural log of population density in 1990. Controls are latitude, longitude, altitude, ruggedness, precipitation, land quality, suitability for dryland rice, suitability for wetland rice, suitability for wheat, and malaria risk. Robust standard errors in parentheses.

Drop Districts in Partition Border States

	(1) Percent female in 2011	(2) Percent female in 2011	(3) Percent female in 2011
Pre-colonial conflict exposure	-0.055***	-0.034***	-0.021***
	(0.008)	(0.008)	(0.007)
N	474	474	474
State FE	No	Yes	Yes
Controls	No	No	Yes

Notes: ***Significant at 1%, **Significant at 5%, *Significant at 10%. All specifications include a constant and the natural log of population density in 1990. Controls are latitude, longitude, altitude, ruggedness, precipitation, land quality, suitability for dryland rice, suitability for wetland rice, suitability for wheat, and malaria risk. Robust standard errors in parentheses.

Control for Partition Migration Flows

	(1) Percent female in 2011	(2) Percent female in 2011	(3) Percent female in 2011
Pre-colonial conflict exposure	-0.045***	-0.026***	-0.023***
	(0.007)	(0.007)	(0.006)
Inflows	-0.091**	-0.063***	-0.068***
	(0.040)	(0.023)	(0.019)
N	631	631	631
State FE	No	Yes	Yes
Controls	No	No	Yes

Notes: ***Significant at 1%, **Significant at 5%, *Significant at 10%. All specifications include a constant and the natural log of population density in 1990. Controls are latitude, longitude, altitude, ruggedness, precipitation, land quality, suitability for dryland rice, suitability for wetland rice, suitability for wheat, and malaria risk. Robust standard errors in parentheses.

Control for Ethnic Relations

	(1) Percent female 2011: all religions all ages	(2) Percent female 2011: all religions all ages	(3) Percent female 2011: all religions all ages
Pre-colonial conflict exposure	-0.027***	-0.026***	-0.027***
	(0.006)	(0.006)	(0.006)
N	657	657	657
Specification	Control for medieval port	Control for years of Muslim rule	Control for share Muslim
Pre-colonial conflict exposure	-0.027***	-0.026***	-0.027***
	(0.006)	(0.006)	(0.006)
N	657	657	657
Specification	Control for religious polarization	Control for ethnic fractionalization	Control for religious fractionalization
Pre-colonial conflict exposure	-0.027***	-0.028***	-0.025***
	(0.006)	(0.006)	(0.006)
N	657	657	657
Specification	Control for share scheduled caste	Control for share scheduled tribe	Control for Ganges
State FE	Yes	Yes	Yes
Controls	Yes	Yes	Yes

Percent Female Among Hindus

	(1) Percent female 2011: Hindu 0-9	(2) Percent female 2011: Hindu 0-9	(3) Percent female 2011: Hindu 0-9	(4) Percent female 2011: Hindu religions all ages	(5) Percent female 2011: Hindu religions all ages	(6) Percent female 2011: Hindu religions all ages
Pre-colonial conflict exposure	-0.077***	-0.038***	-0.027***	-0.067***	-0.032***	-0.023**
	(0.006)	(0.007)	(0.006)	(0.011)	(0.011)	(0.011)
N	615	615	615	615	615	615
State FE	No	Yes	Yes	No	Yes	Yes
Controls	No	No	Yes	No	No	Yes

Notes: ***Significant at 1%, **Significant at 5%, *Significant at 10%. All specifications include a constant and the natural log of population density in 1990. Controls are latitude, longitude, altitude, ruggedness, precipitation, land quality, suitability for dryland rice, suitability for wetland rice, suitability for wheat, and malaria risk. Robust standard errors in parentheses.

Restrict Sample to Civil Battles

	(1) Percent female in 2011	(2) Percent female in 2011	(3) Percent female in 2011
Exposure to civil conflicts	-0.059***	-0.022***	-0.018***
	(0.006)	(0.008)	(0.007)
N	657	657	657
State FE	No	Yes	Yes
Controls	No	No	Yes

Notes: ***Significant at 1%, **Significant at 5%, *Significant at 10%. All specifications include a constant and the natural log of population density in 1990. Controls are latitude, longitude, altitude, ruggedness, precipitation, land quality, suitability for dryland rice, suitability for wetland rice, suitability for wheat, and malaria risk. Robust standard errors in parentheses.

Control for Major Urban Centers

Panel A: Control for Distance to Bangalore, Bombay, Chennai, Delhi, and Kolkata

	(1)	(2)	(3)
	Percent female in 2011	Percent female in 2011	Percent female in 2011
Pre-colonial conflict exposure	-0.025***	-0.013*	-0.020***
	(0.006)	(0.007)	(0.006)
N	657	657	657
State FE	No	Yes	Yes
Controls	No	No	Yes

Panel B: Control for Distance to nearest British Presidency city

	(1)	(2)	(3)
	Percent female in 2011	Percent female in 2011	Percent female in 2011
Pre-colonial conflict exposure	-0.029***	-0.027***	-0.025***
	(0.006)	(0.007)	(0.006)
N	657	657	657
State FE	No	Yes	Yes
Controls	No	No	Yes

***Significant at 1%, **Significant at 5%, *Significant at 10%. All specifications include a constant. Controls are latitude, longitude, altitude, ruggedness, precipitation, land quality, suitability for dryland rice, suitability for wetland rice, suitability for wheat, and malaria risk. Robust standard errors in parentheses.

Control for Asian Highway 1

	(1) Percent female in 2011	(2) Percent female in 2011	(3) Percent female in 2011
Pre-colonial conflict exposure	-0.047***	-0.028***	-0.022***
	(0.007)	(0.007)	(0.006)
N	657	657	657
State FE	No	Yes	Yes
Controls	No	No	Yes

Notes: ***Significant at 1%, **Significant at 5%, *Significant at 10%. All specifications include a constant and the natural log of population density in 1990. Controls are latitude, longitude, altitude, ruggedness, precipitation, land quality, suitability for dryland rice, suitability for wetland rice, suitability for wheat, and malaria risk. Robust standard errors in parentheses.

Balance: Khyber Proximity and Historical Trade

	(1) Seventeenth century trade route	(2) UNESCO silk road site	(3) Medieval port
Khyber proximity	0.047	-0.019	-0.006
	(0.104)	(0.021)	(0.019)
N	657	657	657
State FE	Yes	Yes	Yes
Controls	Yes	Yes	Yes

Notes: ***Significant at 1%, **Significant at 5%, *Significant at 10%. All specifications include a constant and the natural log of population density in 1990. Controls are latitude, longitude, altitude, ruggedness, precipitation, land quality, suitability for dryland rice, suitability for wetland rice, suitability for wheat, and malaria risk. Robust standard errors in parentheses.

Instrumental Variables: Control for Historical Trade

	(1) Percent female in 2011	(2) Percent female in 2011	(3) Percent female in 2011
Pre-colonial conflict exposure	-0.038*	-0.040*	-0.039*
	(0.021)	(0.020)	(0.020)
Seventeenth century trade route	-0.001		
	(0.001)		
UNESCO silk road site		-0.005	
		(0.003)	
Medieval port			-0.002
			(0.002)
N	657	657	657
State FE	Yes	Yes	Yes
Controls	Yes	Yes	Yes
KPF	10.54	10.74	10.83

Notes: ***Significant at 1%, **Significant at 5%, *Significant at 10%. All specifications include a constant and the natural log of population density in 1990. Controls are latitude, longitude, altitude, ruggedness, precipitation, land quality, suitability for dryland rice, suitability for wetland rice, suitability for wheat, and malaria risk. Robust standard errors in parentheses. The excluded instrument is a dummy for Khyber proximity. KPF denotes the Kleibergen-Paap F-statistic.

Instrumental Variables: Control for Historical Trade (Cost Distance)

	(1) Percent female in 2011	(2) Percent female in 2011	(3) Percent female in 2011
Pre-colonial conflict exposure	-0.037*	-0.038*	-0.037*
	(0.020)	(0.020)	(0.020)
Cost distance: trade route	0.002		
	(0.003)		
Cost distance: silk road		0.002	
		(0.002)	
Cost distance: port			0.002
			(0.003)
N	657	657	657
State FE	Yes	Yes	Yes
Controls	Yes	Yes	Yes
KPF	10.49	10.56	10.49

Notes: ***Significant at 1%, **Significant at 5%, *Significant at 10%. All specifications include a constant and the natural log of population density in 1990. Controls are latitude, longitude, altitude, ruggedness, precipitation, land quality, suitability for dryland rice, suitability for wetland rice, suitability for wheat, and malaria risk. Robust standard errors in parentheses. The excluded instrument is a dummy for Khyber proximity. KPF denotes the Kleibergen-Paap F-statistic. Cost distances normalized to be N(0,1).

Instrumental Variables: Placebo Locations

	(1)	(2)	(3)	(4)	(5)
Panel A: Second Stage	Percent female in 2011	Percent female in 2011	Percent female in 2011	Percent female in 2011	Percent female in 2011
Conflict exposure	-0.001	-0.980	0.311	2.878	0.027
	(0.058)	(5.108)	(0.271)	(42.549)	(0.048)
KPF	2.348	0.0321	1.510	0.00438	3.496
Panel B: First Stage	Conflict exposure	Conflict exposure	Conflict exposure	Conflict exposure	Conflict exposure
Placebo Instrument	-0.038	-0.002	0.012	0.001	-0.045*
	(0.024)	(0.012)	(0.010)	(0.012)	(0.023)
Panel C: Reduced Form	Percent female in 2011	Percent female in 2011	Percent female in 2011	Percent female in 2011	Percent female in 2011
Placebo Instrument	0.000	0.002	0.004***	0.002	-0.001
	(0.002)	(0.002)	(0.001)	(0.002)	(0.002)
Observations	657	657	657	657	657
Placebo	Surat	Kodung	Goa	Calicut	Bombay
State FE	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes

Instrumental Variables: Control for Year of First Railway

	(1) Percent female in 2011	(2) Percent female in 2011	(3) Percent female in 2011
Pre-colonial conflict exposure	-0.092***	-0.086***	-0.042**
	(0.009)	(0.023)	(0.019)
N	657	657	657
State FE	No	Yes	Yes
Controls	No	No	Yes
KPF	126.8	13.73	10.52

Exposure to Overland Battles as Instrument

	(1)	(2)	(3)
Panel A: Second Stage			
	Percent female in 2011	Percent female in 2011	Percent female in 2011
Pre-colonial conflict exposure	-0.072***	-0.043***	-0.041***
	(0.008)	(0.009)	(0.009)
KPF	446.2	313.3	269.2
Panel B: First Stage			
	Pre-colonial conflict exposure	Pre-colonial conflict exposure	Pre-colonial conflict exposure
Exposure to overland conflict	1.920***	1.608***	1.629***
	(0.091)	(0.088)	(0.096)
Panel C: Reduced Form			
	Percent female in 2011	Percent female in 2011	Percent female in 2011
Exposure to overland conflict	-0.139***	-0.069***	-0.067***
	(0.017)	(0.016)	(0.016)
N	657	657	657
State FE	No	Yes	Yes
Controls	No	No	Yes

Notes: ***Significant at 1%, **Significant at 5%, *Significant at 10%. All specifications include a constant and the natural log of population density in 1990. Controls are latitude, longitude, altitude, ruggedness, precipitation, land quality, suitability for dryland rice, suitability for wetland rice, suitability for wheat, and malaria risk. Robust standard errors in parentheses. KPF denotes the Kleibergen-Paap F-statistic.

Instrumental Variables: Drop Delhi

	(1) Percent female in 2011	(2) Percent female in 2011	(3) Percent female in 2011
Pre-colonial conflict exposure	-0.094***	-0.088***	-0.039*
	(0.010)	(0.025)	(0.020)
N	656	656	656
State FE	No	Yes	Yes
Controls	No	No	Yes
KPF	126.9	14.44	10.88

Notes: ***Significant at 1%, **Significant at 5%, *Significant at 10%. All specifications include a constant and the natural log of population density in 1990. Controls are latitude, longitude, altitude, ruggedness, precipitation, land quality, suitability for dryland rice, suitability for wetland rice, suitability for wheat, and malaria risk. Robust standard errors in parentheses. KPF denotes the Kleibergen-Paap F-statistic.

Female Temples Controlling for Older Female Temples

	(1) Female temple	(2) Female temple	(3) Female temple
Conflict exposure to 1526	-0.107*	-0.225**	-0.323**
	(0.064)	(0.104)	(0.145)
N	657	657	657
State FE	No	Yes	Yes
Controls	No	No	Yes

***Significant at 1%, **Significant at 5%, *Significant at 10%. All specifications include a constant. Controls are latitude, longitude, altitude, ruggedness, precipitation, land quality, suitability for dryland rice, suitability for wetland rice, suitability for wheat, and malaria risk. All specifications also control for log population density in 1500. In addition, all specifications control for female temples between the 8th and 12th centuries. Robust standard errors in parentheses.

Dowry: Evidence from the India Human Development Survey

	(1) cash given at daughter's wedding	(2) Cash Gift: Amount	(3) Cash Gift: IHS Amount
Pre-colonial conflict exposure	-0.809**	387.271	-3.095
	(0.365)	(22,019.144)	(2.478)
N	40,912	33,949	33,949
State FE	Yes	Yes	Yes
Controls	Yes	Yes	Yes

***Significant at 1%, **Significant at 5%, *Significant at 10%. All specifications include a constant and the natural log of population density in 1990. Controls are latitude, longitude, altitude, ruggedness, precipitation, land quality, suitability for dryland rice, suitability for wetland rice, suitability for wheat, and malaria risk. Standard errors clustered by district in parentheses.

Dowry: Evidence from ARIS-REDS

	(1) Dowry paid	(2) ln 1+Dowry paid	(3) IHS Dowry paid
Pre-colonial conflict exposure	-6,576.857	-1.379	-1.465
	(11,565.428)	(2.746)	(2.913)
N	3,664	3,664	3,664
Sample	Girls	Girls	Girls
State FE	Yes	Yes	Yes
Controls	Yes	Yes	Yes

***Significant at 1%, **Significant at 5%, *Significant at 10%. All specifications include a constant and the natural log of population density in 1990. Controls are latitude, longitude, altitude, ruggedness, precipitation, land quality, suitability for dryland rice, suitability for wetland rice, suitability for wheat, and malaria risk. Standard errors clustered by district in parentheses. Individual controls are child birth year.

Female Labor Force Participation

	(1) Not working	(2) Not working	(3) Not working
Pre-colonial conflict exposure	0.015	0.009	0.016
	(0.009)	(0.011)	(0.012)
N	114,549	114,549	114,549
State FE	No	Yes	Yes
Controls	Individual	Individual	Individual and geographic

Notes: ***Significant at 1%, **Significant at 5%, *Significant at 10%. All specifications include a constant and the natural log of population density in 1990. Controls are latitude, longitude, altitude, ruggedness, precipitation, land quality, suitability for dryland rice, suitability for wetland rice, suitability for wheat, and malaria risk. Robust standard errors in parentheses.

Drop Conflicts Involving Europeans

	(1) Percent female in 2011	(2) Percent female in 2011	(3) Percent female in 2011
Conflict exposure without Europeans	-0.062***	-0.029***	-0.027***
	(0.007)	(0.008)	(0.007)
N	657	657	657
State FE	No	Yes	Yes
Controls	No	No	Yes

Notes: ***Significant at 1%, **Significant at 5%, *Significant at 10%. All specifications include a constant and the natural log of population density in 1990. Controls are latitude, longitude, altitude, ruggedness, precipitation, land quality, suitability for dryland rice, suitability for wetland rice, suitability for wheat, and malaria risk. Robust standard errors in parentheses.

Control for Language and Religion

	(1) Percent female in 2011	(2) Percent female in 2011	(3) Percent female in 2011
Pre-colonial conflict exposure	-0.039***	-0.029***	-0.024***
	(0.006)	(0.006)	(0.006)
N	657	657	657
State FE	No	Yes	Yes
Controls	No	No	Yes

Notes: ***Significant at 1%, **Significant at 5%, *Significant at 10%. All specifications include a constant and the natural log of population density in 1990. Controls are latitude, longitude, altitude, ruggedness, precipitation, land quality, suitability for dryland rice, suitability for wetland rice, suitability for wheat, and malaria risk. Robust standard errors in parentheses. All specifications also control for population shares by language and religion.