

Village Dominance and Learning Gaps in Rural India

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Reducing Inequality - The Great Challenge of Our Time

Introduction

- ▶ Significant reforms in education system - “Sarva Shiksha Abhiyan” in 2001, later reinforced with Right to Education Act in 2009.
- ▶ Bridge the social and gender gaps at the elementary school level.
- ▶ Enrolment for the age group 6-14 years has been 96 percent or above since 2009 in India (ASER 2018).

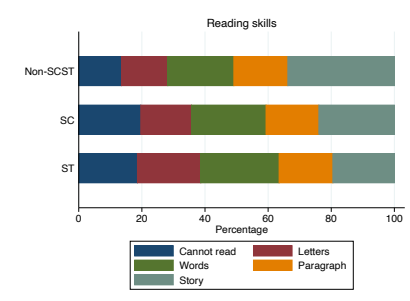
Low learning levels

- ▶ What is now relevant is not so much whether children are enrolled, but what they are learning in schools.
- ▶ Learning assessments at the national and international level show that a large number of students in India are not equipped with basic reading and writing skills.
- ▶ Only half of the children enrolled in class V can read standard II level text, and less than one-third possess arithmetic skills like division (ASER 2018).
- ▶ PISA - India ranked 72 out of 73 countries in 2009.

Learning gaps across social groups

- ▶ Low learning outcomes - with inter-group disparities.
- ▶ The two most disadvantaged socio-economic groups in India - Scheduled Castes (16.6 percent (200 million)) and Scheduled Tribes (8.6 percent (100 million)).
- ▶ In efforts of uplift these two marginalised groups, Government of India provided them several affirmative action in education and employment.
- ▶ However, despite these efforts, remain overrepresented among the illiterate, low levels of occupation distribution, consumption, and wages.

Reading levels

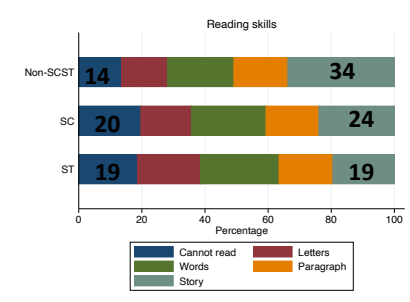


(a) Reading

Source: India Human Development Survey-II (IHDS-II), 2011-12

Figure 1: Learning outcomes across caste groups

Reading levels

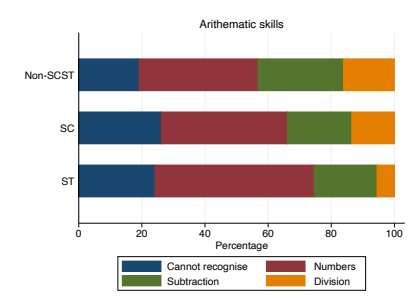


(a) Reading

Source: India Human Development Survey-II (IHDS-II), 2011-12

Figure 2: Learning outcomes across caste groups

Arithmetic levels

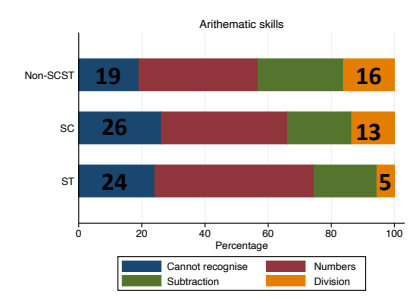


(a) Arithmetic

Source: India Human Development Survey-II (IHDS-II), 2011-12

Figure 3: Learning outcomes across caste groups

Arithmetic levels



(a) Arithmetic

Source: India Human Development Survey-II (IHDS-II), 2011-12

Figure 4: Learning outcomes across caste groups

Why address learning gaps across castes?

- ▶ Inadequate learning outcomes with widening social gaps - biggest challenge.
- ▶ Sustainable Development Goal (SDG 4) - inclusive education.
- ▶ Education is associated with labour market outcomes and economic mobility.
- ▶ Early deficit in educational achievements magnifies over time.
- ▶ Cycles of intergenerational inequality.

What do we know so far?

- ▶ Why despite best attempts, there exists a persistence gap in educational outcomes across castes?
- ▶ Literature:
 1. Individual and household (Santhakumar et al., 2016; Chudgar, 2009; Filmer and Pritchett, 2001).
 2. School factors (Muralidharan and Sundararaman, 2015; Karopady, 2014; Ramchandran and Naorem, 2013; Dreze and Kingdon, 2001)

Contribution

- ▶ Need to identify the factors other than individual, household and school related which may explain these lower educational outcomes for SC/ST
- ▶ In this paper, we argue that village social structure, particularly caste dominance has an important role in determining gaps in learning outcomes.
- ▶ Emerging literature on identity based disadvantage of a unit (village) and its impact on economic outcomes.

Why village dominance?

- ▶ Neighbourhood and community - social and economic mobility in later life (Wodtke et al., 2011; Chetty et al., 2018).
- ▶ Marginalised caste

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 1. Higher caste dominance → high stress, differential treatment → Learning outcome ↓ (Human Rights Watch, 2014, Hoff and Pandey 2006).
 2. Higher caste dominance → good quality public schools → Learning outcome ↑ (Bailwal and Paul 2021).

Notion of village dominance

- ▶ M. N. Srinivas (1955) defined dominant caste in a village as one with majority population and also with greatest economic and political power.
- ▶ Dumont (1980) suggested that dominant caste in a village is only determined by the economic power which arise from land ownership.
- ▶ Dominant caste based on land ownership given by Dumont (1980) has been widely used in the recent empirical literature (Anderson, 2011; Iversen et al., 2014).

Our definition: Village dominance

- ▶ We also define caste dominance based on economic power arising from land ownership.
- ▶ For instance, if the higher caste owns majority share of the total village land, village is said to be higher caste dominated.
- ▶ Data: We use recent round of Indian Human Development Survey (IHDS) 2011.
- ▶ IHDS - nationally representative survey - 42,152 households in 1503 villages.
- ▶ IHDS tests reading, writing, and arithmetic skills of 12,000 kids aged 8-11 years.

Identification strategy

- ▶ Economic resources and political influences- upper castes have been the most powerful group in the villages.
- ▶ Abolition of *Zamindari System* and Affirmative action programmes in 1950s - SCST communities emerged as a dominant caste in some villages.
- ▶ Village level caste composition and land settlement patterns have remained essentially unchanged for decades.

Village dominance over time

Table 1: Village dominance over time

Village dominance	2005	2011
SC	6.792	5.896
ST	10.753	10.842
non-SCST	82.455	83.262
Number of villages	1,501	1,410

Source: India Human Development Survey-I (2005-06), and India Human Development Survey-II (2011-2012)

Low migration

Table 2: Household years of residence

Years ago household came to village of residence	Frequency
Forever	90.682
50-85 years	3.542
49-15 years	4.372
14-10 years	0.653
Less than 9 years	0.751
Number of households	27,576

Source: India Human Development Survey-II (IHDS-II), 2011-12

Change in land ownership over time

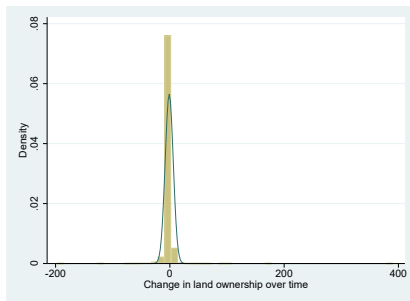


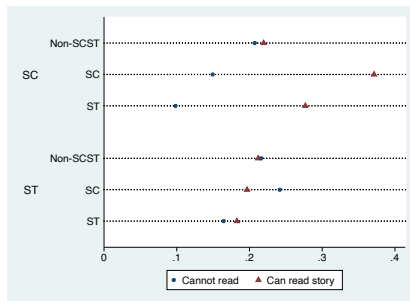
Figure 5: Change in land ownership (in acres) between 2005-06 and 2011-12

Notes: This plot shows the change in ownership of household land between 2005-06 and 2011-12 using IHDS panel data.

Hypothesis

Whether children from marginalised castes perform better when reside in villages dominated by their own castes.

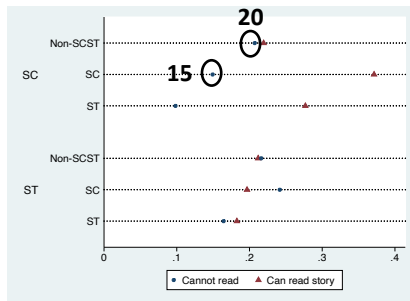
Village dominance and learning outcome



(a) Reading

Figure 6: Learning outcomes of SC/ST and village dominance

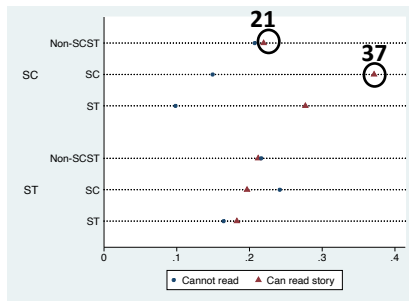
Village dominance and learning outcome



(a) Reading

Figure 7: Learning outcomes of SC/ST and village dominance

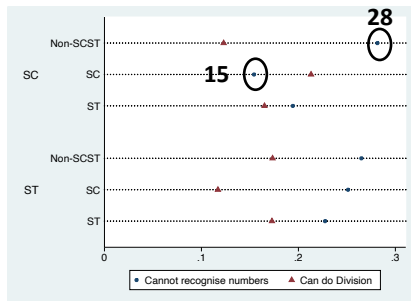
Village dominance and learning outcome



(a) Reading

Figure 8: Learning outcomes of SC/ST and village dominance

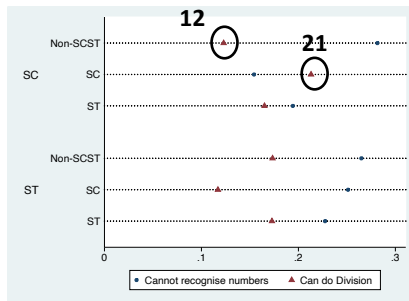
Village dominance and learning outcome



(a) Arithmetic

Figure 9: Learning outcomes of SC/ST and village dominance

Village dominance and learning outcome



(a) Arithmetic

Figure 10: Learning outcomes of SC/ST and village dominance

Empirical specification

Our dependent variable ($Y_{i,h,v}^*$) is a latent variable capturing the learning outcome of child i in household h in village v .

$$\begin{aligned} Y_{i,h,v}^* &= \beta_1 SC_i + \beta_2 ST_i + \beta_3 VDSC_i + \beta_4 VDST_i + \beta_5 SC_i * VDSC_i \\ &+ \beta_6 ST_i * VDST_i + \mathbf{X}_{i,h} \boldsymbol{\delta} + \boldsymbol{\Delta}_v + state_dummies + \epsilon_{i,h,v} \end{aligned}$$

where $VDSC_i$ takes value 1 if the village of residence of child i is dominated by SC and 0 otherwise. Similarly, $VDST_i$ is a dummy variable depicting village dominance by ST.

Table 3: Marginal effects of village dominance and caste on reading skills

	cannot read at all			can read a story		
	model 1	model 2	model 3	model 1	model 2	model 3
SC	0.063*** (0.018)	0.073*** (0.017)	0.027** (0.013)	-0.087*** (0.022)	-0.092*** (0.019)	-0.037** (0.017)
ST	0.083*** (0.014)	0.092*** (0.027)	0.030** (0.017)	-0.109*** (0.017)	-0.108*** (0.026)	-0.041** (0.021)
VDSC		-0.008 (0.029)	-0.030* (0.016)		0.011 (0.043)	0.045* (0.027)
VDST		0.002 (0.023)	-0.023 (0.016)		-0.003 (0.033)	0.034 (0.028)
SC*VDSC		-0.041 (0.029)	-0.001 (0.024)		0.067 (0.047)	0.003 (0.042)
ST*VDST		0.085*** (0.029)	0.015 (0.018)		-0.100*** (0.038)	-0.024 (0.028)
Controls	No	No	Yes	No	No	Yes
State fixed effects	No	No	Yes	No	No	Yes
N	7947	7947	7334	7947	7947	7334
R-sq	0.005	0.006	0.110	0.005	0.006	0.110
$\beta_3 + \beta_5$		-0.100*** (0.025)	-0.052** (0.021)		0.137*** (0.048)	0.078** (0.034)
$\beta_4 + \beta_6$		-0.006 (0.028)	-0.038 (0.023)		0.005 (0.025)	0.051 (0.033)

Table 4: Marginal effects of village dominance and caste on arithmetic skills

	Cannot recognise numbers			Division		
	model 1	model 2	model 3	model 1	model 2	model 3
SC	0.063*** (0.019)	0.073*** (0.017)	0.028*** (0.009)	-0.047*** (0.013)	-0.048*** (0.011)	-0.021*** (0.006)
ST	0.111*** (0.014)	0.113*** (0.024)	0.048** (0.021)	-0.073*** (0.009)	-0.068*** (0.010)	-0.033*** (0.013)
VDSC		-0.019 (0.025)	-0.029** (0.014)		0.016 (0.020)	0.024* (0.014)
VDST		-0.007 (0.027)	-0.025 (0.017)		0.006 (0.023)	0.025 (0.019)
SC*VDSC		-0.054** (0.027)	-0.007 (0.021)		0.050* (0.027)	0.007 (0.020)
ST*VDST		0.123*** (0.036)	0.046 (0.031)		-0.075*** (0.026)	-0.037 (0.026)
Controls	No	No	Yes	No	No	Yes
State fixed effects	No	No	Yes	No	No	Yes
N	7914	7914	7,308	7914	7914	7,308
R-sq	0.005	0.007	0.130	0.005	0.007	0.130
$\beta_3 + \beta_5$		-0.121*** (0.021)	-0.051*** (0.019)		0.093*** (0.024)	0.040** (0.017)
$\beta_4 + \beta_6$		0.002 (0.040)	-0.027 (0.024)		-0.001 (0.017)	0.017 (0.016)

Possible explanation

- ▶ Teachers are believed to be fundamental agents who influence the learning process in schools.
- ▶ Hanushek and Rivkin (2006) highlight that teachers represent the most significant resource in schools contributing to learning achievements.
- ▶ Despite legal prohibition, the practice of verbal abuse and corporal punishment continue to be most common way to ensure discipline in schools.

Table 5: Teacher's behaviour towards SC across villages

Teacher's behaviour	NonSCST	SC	Difference
Child been beaten in last 30 days	.348	.215	0.134***
Child been scolded in last 30 days	.453	.261	0.191***
Class teacher treat child unfairly	.145	.084	0.061**
Number of observations	1,600	228	

- ▶ Why do teachers misbehave with SC children in non-SCST dominated villages compared to own caste-dominated villages?

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 - ▶ Higher social distance: teachers sharing the same caste with students help them learn better as teachers understand children's background better.
 - ▶ Teachers exert more influence and power in non-SCST dominated villages: SC parents lack voice and agency.

Alternative channels

- ▶ School quality and access to schools
- ▶ Discrimination in village
- ▶ Parents/children aspiration and involvement
- ▶ Caste fractionalisation index
- ▶ Positive group size effect

Main findings

- ▶ We find significant inter-caste differences in the both reading and arithmetic skills.
- ▶ SC children score higher on both reading and arithmetic skill when they reside in villages dominated by their own castes group compared to higher caste dominated villages.
- ▶ Probability of beaten up, scolded and unfair treatment is lower for a SC kid residing in own caste dominated village compared to higher caste dominated villages.
- ▶ Robustness check- alternative definition - population share, combined population and land share, degree of dominance - share of land owned, writing as learning outcome.

Thank you :)