Monitoring and collective action

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Introduction

- Voting (and many other political phenomena) are inherently collective phenomena: your action only matters in the context of the actions of many others.
- Attending a protest only has an impact if others attend; starting a revolution only generates change if others participate.
- At the same time, collective action entails its own unique challenges.

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- This unit has two objectives: one is to understand (briefly) the challenges of collective action, and to examine how collective action is effective in monitoring the performance of public officials.
- We are moving on from voting; as important as voting behavior is, elections are episodic, and much of the important work of governance unfolds between elections.

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Core challenge of collective action

- Everyone chooses whether or not to contribute to the collective action; but, if it is realized, everyone benefits (not just those who contributed).
- In other words, collective action is generating a public good.
- First, consider the case where unanimous contribution is required to achieve the goal.
- There are two Nash equilibria in this case: no one contributes, or everyone contributes.
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Core challenge of collective action, Part II

- Now, consider the case where out of n individuals, only k need to participate to attain the collective goal.
  - E.g., if n is legislators, everyone wants to approve a bill, and a 50% quorum is required to show up to do so, then k is .5n.
- In this case, for a given individual, it is **not** optimal to contribute to the collective effort if fewer than k-1 people are participating, or if more than k-1 are participating; in the former case, she can't change the outcome, and in the latter case, she doesn't need to exert any effort to get the outcome she wants.
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Knife-edge equilibrium

- In this case, the Nash equilibria are found where zero people contribute, or where k people contribute.
- For the collective goal to be accomplished, there is a "knife-edge" condition: exactly k individuals will need to believe that they, and only they, are likely to contribute.
- Analysts argue that strategic and psychological pressures to encourage contribution rise as k gets large relative to n.
- The probability of contribution also increases as the difference between benefits of contribution and costs rises.

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Why community monitoring?

- The more traditional strategy would be monitoring by other, higher levels of bureaucracy.
- These levels may have weak information, and/or weak incentives.
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To monitor or not to monitor

- Thus intuition suggests local monitoring of public services may be highly effective.
- At the same time, our analysis of collective action suggests an obvious potential challenge - every household will be tempted to free-ride and benefit from improved public services as a result of monitoring effort expended by others.
- This is not the only problem: households may fear retaliation, they may feel they don't have the social standing to challenge government employees, they may simply be more focused on short-term goals, etc.

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- In this lecture, we will analyze three papers that present empirical evidence about the effectiveness of local collective monitoring in three different sectors in three different contexts.
- Each context yields sharply different results.
- All three papers are RCTs.
- If we are analyzing community monitoring, what is the plausible unit of randomization?

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Banerjee et al., Pitfalls of Participatory Programs

- The paper begins with the simple fact that the quality of publicly provided education in many developing countries is extremely poor: teachers in primary schools in India have absence rates of 25%, and in Uttar Pradesh (state of interest), only 43.5% of 5th-grade children can read a simple story.
- While small programs of incentives for civil servants can have major impacts on outcomes, the central government bureaucracy often cannot or will not deliver those incentives.
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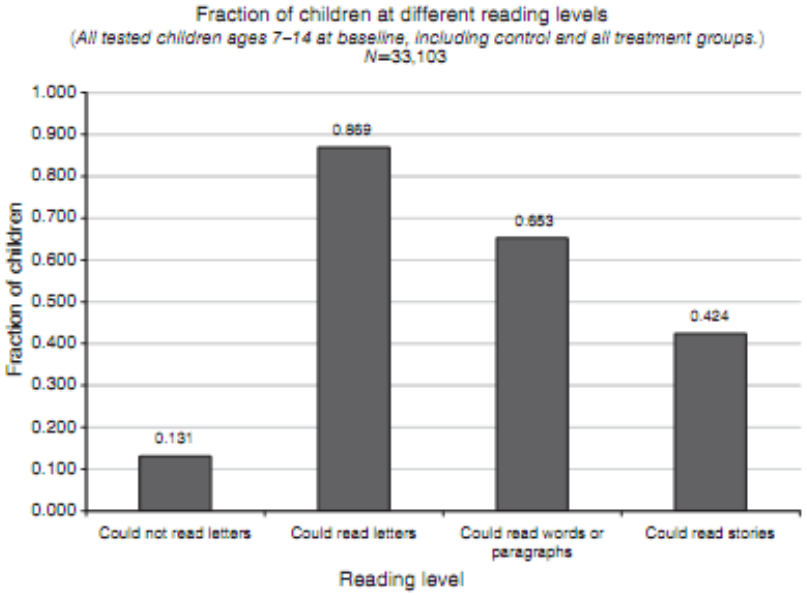
Initial levels of educational attainment: low!



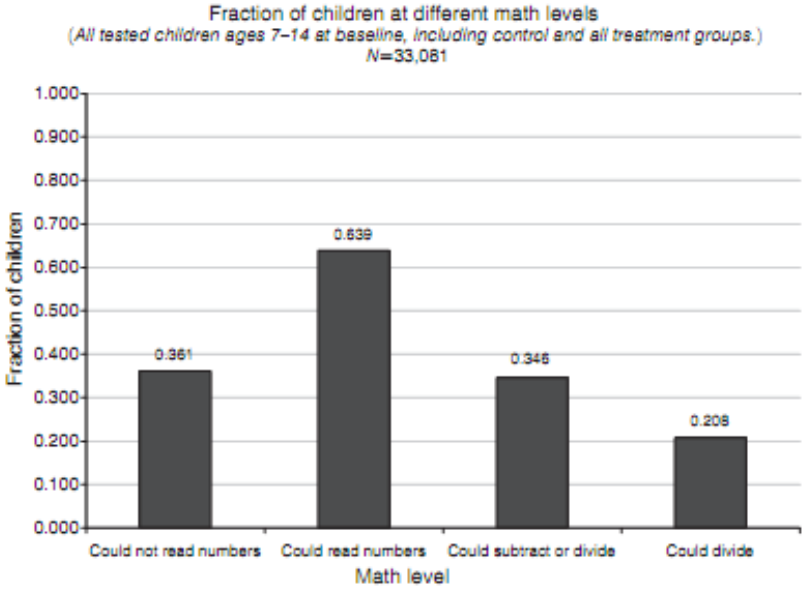


Figure 1. Children's Reading and Math Levels: Baseline

Intervention

- Village Educational Committees, including parents, the head teacher, and the head of the village government, are the primary body empowered to monitor teachers and intermediate between the village and district authorities.
- However, ex ante in these communities there was little knowledge of the VEC's existence or purpose, and the state of education remained extremely weak.
- The intervention, implemented by a NGO, was primarily targeted at re-invigorating the VEC, and had three arms.

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Study arms

- In the first study arm, Pratham teams facilitated village meetings about the role and activities of the VEC, and distributed pamphlets.
- In the second study arm, they provided this intervention and also trained community members to administer a reading test and generate a report card on the status of learning in their village.
- In the third study arm, they provided the first two interventions and also recruited volunteers to hold "reading camps" in the village.
- In brief: none of the interventions had any impact on involvement in public schools or school performance, despite the fact that there was substantial participation.

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Multiple hypothesis testing

- In this paper, as in many others we will examine, there is a huge universe of potential variables that the intervention might impact.
- This is particularly true in RCTs, since researchers typically design a survey to collect information about all possible dimensions of impact.
- One strategy is to simply test the impact of the intervention on all of the variables in a series of linear regressions.
- What is the potential pitfall here? Out of 100 variables, how many will appear to be statistically significant by chance?

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Cherry-picking

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- Why? Because it is very hard to publish a null result!
- In order to combat this problem, researchers implementing RCTs are increasingly held to a higher standard.
- RCTs are now registered in advance, specifying the outcomes of interest; some researchers register more specific pre-analysis plans, noting exactly what regressions they will run.
- If you've registered a trial of an intervention and the outcomes of interest are utilization of antenatal care and birthweight, you have to report both outcomes; you can't report a significant effect on utilization, and hide the fact that there is no impact on birthweight.

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Families of outcomes

- Another approach is to group similar variables together.
- If you are interested in measuring knowledge (e.g., knowledge of the operation of a VEC), you might ask each respondent 10 questions (or more). Some might show a significant result, some insignificant.
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- You can report outcomes grouped by "families", and the standardized effect over all outcomes in the family.
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VEC knowledge

TABLE 1—VEC AWARENESS AND ACTIVISM

	Baseline		Endline comparison	OLS: Impact of treatment in endline				
	Mean	N	Group mean	Treatment 1	Treatment 2	Treatment 3	Any treatment	N
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A. Dependent variables—VEC members information about their role								
Mentioned that they are in the VEC unprompted	0.383	248	0.247	0.084	0.083	0.030	0.066	237
	(0.024)		(0.038)	(0.060)	(0.061)	(0.058)	(0.046)	
Mentioned that they are in the VEC when prompted	0.753	248	0.602	0.065	0.095	0.047	0.070	237
	(0.020)		(0.044)	(0.067)	(0.061)	(0.064)	(0.051)	
Had heard of SSA	0.258	248	0.209	0.101	0.062	0.065	0.075	237
	(0.018)		(0.033)	(0.056)	(0.053)	(0.058)	(0.042)	
Knew that their school can receive money from SSA	0.210	248	0.179	0.119**	0.048	0.072	0.078	237
	(0.017)		(0.033)	(0.056)	(0.049)	(0.057)	(0.041)	
Had received VEC training	0.132	248	0.046	0.118***	0.135***	0.148***	0.134***	237
	(0.016)		(0.020)	(0.042)	(0.044)	(0.041)	(0.030)	
Average over family of outcomes (in SD)				0.387***	0.345***	0.320**	0.350***	
				(0.138)	(0.125)	(0.141)	(0.098)	

Parental knowledge and involvement

TABLE 2—PARENTS' AWARENESS AND ACTIVISM

	Baseline		Endline comparison	OLS: Impact of treatment in endline				
	Mean (1)	N (2)	Group mean (3)	Treatment 1 (4)	Treatment 2 (5)	Treatment 3 (6)	Any treatment (7)	N (8)
Panel A. Dependent variables—parental awareness of school								
Knew about the VEC	0.077	2,660	0.040	0.029**	0.019	0.022	0.023**	2,592
	(0.006)		(0.007)	(0.011)	(0.013)	(0.013)	(0.009)	
Could name specific VEC members	0.029	2,660	0.014	0.021**	0.011	0.015	0.016***	2,592
	(0.003)		(0.004)	(0.009)	(0.009)	(0.008)	(0.006)	
Thought parents are most responsible for quality of schools	0.755	2,660	0.531	−0.035	−0.019	−0.002	−0.019	2,587
	(0.010)		(0.025)	(0.034)	(0.035)	(0.033)	(0.028)	
Thought parents are in top 3 of those responsible for quality of schools	0.959	2,660	0.905	−0.028	−0.016	−0.028	−0.024	2,587
	(0.004)		(0.010)	(0.017)	(0.017)	(0.017)	(0.013)	
Thought teachers are in top 3 of those responsible for quality of schools	0.922	2,660	0.930	−0.007	−0.008	−0.003	−0.006	2,587
	(0.006)		(0.010)	(0.015)	(0.013)	(0.016)	(0.011)	
Thought panchayat is in top 3 of those responsible for quality of schools	0.175	2,660	0.237	0.029	0.011	−0.021	0.006	2,587
	(0.009)		(0.020)	(0.029)	(0.028)	(0.026)	(0.022)	
Average over family of outcomes (in SD)				0.034	0.016	0.012	0.021	
				(0.027)	(0.030)	(0.028)	(0.021)	
Panel B. Dependent variables—parental involvement with school								
Visited school to monitor or complain	0.286	2,660	0.280	−0.016	−0.040	−0.014	−0.023	2,431
	(0.009)		(0.018)	(0.025)	(0.025)	(0.025)	(0.020)	
Donated to school	0.065	2,614	0.037	−0.001	−0.001	−0.006	−0.002	2,381
	(0.005)		(0.006)	(0.012)	(0.011)	(0.010)	(0.008)	
Volunteered at school	0.083	2,611	0.040	−0.008	−0.020**	−0.010	−0.013	2,393
	(0.005)		(0.007)	(0.010)	(0.009)	(0.010)	(0.008)	
Complained about school	0.142	2,660	0.092	0.028	0.015	0.019	0.021	2,507
	(0.007)		(0.012)	(0.019)	(0.017)	(0.019)	(0.014)	
Average over family of outcomes (in SD)				0.002	−0.038	−0.013	−0.017	
				(0.033)	(0.031)	(0.033)	(0.026)	

Parental knowledge and involvement, cont.

Panel C. Dependent variables—parental knowledge of education								
Said "don't know" when asked how many children can read paragraph	0.200 (0.009)	2,660	0.172 (0.016)	−0.007 (0.023)	−0.044** (0.020)	−0.006 (0.024)	−0.018 (0.018)	1,920
Said "don't know" when asked how many children can write sentence	0.212 (0.009)	2,660	0.175 (0.016)	−0.012 (0.023)	−0.033 (0.021)	−0.008 (0.024)	−0.017 (0.018)	1,920
Perception minus reality of how many kids can read paragraphs	0.123 (0.007)	2,146	0.042 (0.012)	−0.014 (0.018)	0.018 (0.018)	−0.040** (0.017)	−0.012 (0.014)	1,671
Perception minus reality of how many kids can write sentences	0.109 (0.006)	2,113	−0.020 (0.012)	−0.019 (0.018)	0.025 (0.018)	−0.035 (0.018)	−0.010 (0.014)	1,662
Overestimated own child's ability to read	0.419 (0.009)	2,503	0.336 (0.015)	0.007 (0.022)	0.006 (0.023)	−0.026 (0.022)	−0.005 (0.018)	1,815
Overestimated own child's ability to write	0.254 (0.007)	2,466	0.196 (0.011)	−0.023 (0.018)	−0.003 (0.018)	−0.027 (0.017)	−0.018 (0.014)	1,794
Average over family of outcomes (in SD)				−0.047 (0.040)	0.005 (0.042)	−0.097** (0.041)	−0.047 (0.033)	

(*Continued*)

Enrollment and attendance

TABLE 3—SCHOOLING STATUS AND STUDENT ATTENDANCE

	Baseline		Endline comparison	OLS: Impact of treatment in endline				
	Mean (1)	N (2)	Group mean (3)	Treatment 1 (4)	Treatment 2 (5)	Treatment 3 (6)	Any treatment (7)	N (8)
Panel A. Dependent variables—type of school students attend								
Out of school	0.069	17,530	0.079	0.008	0.006	0.013**	0.009**	16,455
	(0.003)		(0.006)	(0.005)	(0.005)	(0.005)	(0.004)	
In private or NGO school	0.373	17,530	0.387	0.009	0.019	−0.006	0.007	16,455
	(0.009)		(0.017)	(0.016)	(0.017)	(0.017)	(0.014)	
Any tutoring			0.069	−0.006	−0.018**	−0.002	−0.008	17,530
			(0.007)	(0.009)	(0.009)	(0.010)	(0.008)	
Read class	N/A		0.005	−0.001	0.002	0.077***	0.009**	16,412
			(0.001)	(0.002)	(0.003)	(0.010)	(0.004)	
Panel B. Dependent variables—students' enrollment and presence (government schools)								
Log (boys enrollment)	4.568	301	4.522	0.041	0.027	−0.020	0.017	276
	(0.033)		(0.062)	(0.048)	(0.050)	(0.069)	(0.045)	
Log (girls enrollment)	4.625	301	4.636	0.001	0.020	0.013	0.012	277
	(0.032)		(0.075)	(0.077)	(0.074)	(0.075)	(0.071)	
Fraction boys present	0.530	300	0.528	0.029	−0.004	−0.053	−0.008	244
	(0.015)		(0.028)	(0.041)	(0.042)	(0.041)	(0.032)	
Fraction girls present	0.496	301	0.522	0.053	−0.006	−0.027	0.006	249
	(0.014)		(0.022)	(0.043)	(0.035)	(0.035)	(0.028)	
Average over family of outcomes (in SD)				0.127	0.007	−0.105	0.011	
				(0.097)	(0.086)	(0.085)	(0.071)	

Enrollment and attendance, cont.

Panel C. Dependent variables—students' attendance as reported by parents								
Days present in last 14: all children	7.335	5,984	6.058	−0.279	−0.599	−0.314	−0.395	5,555
	(0.086)		(0.239)	(0.355)	(0.351)	(0.371)	(0.285)	
Days present in last 14: only male children in school	7.894	2,947	6.672	−0.264	−0.550	−0.255	−0.353	2,669
	(0.099)		(0.254)	(0.398)	(0.391)	(0.409)	(0.312)	
Days present in last 14: only female children in school	8.137	2,518	6.642	−0.221	−0.657	−0.152	−0.340	2,306
	(0.099)		(0.263)	(0.393)	(0.394)	(0.397)	(0.308)	
Average over family of outcomes (in SD)				−0.077	−0.153	−0.052	−0.094	
				(0.086)	(0.087)	(0.092)	(0.069)	

Educational attainment

TABLE 4—READING AND MATH RESULTS

	Baseline	Endline comparison	OLS: Impact of treatment in endline			First stage	IV
	Mean	Group mean	Treatment 1	Treatment 2	Treatment 3	Attend read class	Impact of read class
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Panel A. Reading results—all children (n=15,609)							
Could read letters	0.855	0.892	0.004	0.004	0.017**	0.077***	0.223**
	(0.004)	(0.007)	(0.007)	(0.007)	(0.007)	(0.010)	(0.093)
Could read words or paragraphs	0.550	0.635	0.005	−0.003	0.018**		0.232**
	(0.006)	(0.009)	(0.008)	(0.008)	(0.008)		(0.101)
Could read stories	0.391	0.499	0.004	0.003	0.017		0.224
	(0.006)	(0.011)	(0.009)	(0.010)	(0.010)		(0.137)
Panel B. Reading results—children who could not read at baseline (n=2,288)							
Could read letters		0.432	0.041	0.032	0.079**	0.131***	0.602**
		(0.023)	(0.031)	(0.034)	(0.035)	(0.023)	(0.304)
Could read words or paragraphs		0.056	−0.006	−0.013	−0.007		−0.051
		(0.010)	(0.015)	(0.012)	(0.014)		(0.106)
Could read stories		0.028	−0.006	−0.013	−0.008		−0.063
		(0.007)	(0.010)	(0.008)	(0.009)		(0.074)
Panel C. Reading results—children who could only read letters at baseline (n=3,539)							
Could read letters		0.919	−0.008	−0.015	0.021	0.132***	0.162
		(0.010)	(0.016)	(0.014)	(0.013)	(0.020)	(0.097)
Could read words or paragraphs		0.253	−0.011	−0.025	0.035		0.269
		(0.014)	(0.022)	(0.021)	(0.022)		(0.171)
Could read stories		0.086	−0.001	−0.010	0.033**		0.261
		(0.011)	(0.014)	(0.014)	(0.017)		(0.135)

Summing up

- There is weak evidence that parents know more about the VECs, but no evidence they are more involved in the school.
- There is no improvement in academic outcomes as a result of monitoring, but a substantial improvement for children with extremely low levels of literacy in the reading camps.
- The authors note that the fact that village-level volunteers can effectively teach children to read after only four days of training suggests that the key problem in the public schooling system may be motivation, rather than lack of skills or knowledge.

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Summing up - key puzzle

- It is particularly puzzling that there are high levels of participation by parents in the reading camps, and the camps are effective, suggesting that parents are willing to exert effort to improve academic performance and know that teaching can work - yet they still don't effectively monitor professional teachers.
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- A subset of findings from the pre-intervention facility survey, including utilization, quality and comparisons vis-a-vis other facilities, were condensed into facility-specific report cards.
- Meetings were then held with the community and staff members to discuss the results of the report card; a "community contract" outlining the responsibilities of both parties was generated.
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where i denotes household, j denotes facility and d denotes district.

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- In this case, the author directly measures the cost of the actual road built using engineering estimates, costs from local suppliers, and surveys of villages about wages paid.
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