

Self Confidence Spillovers and Motivated Beliefs



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Development as a study of frictions

- In a classical sense, Development is a study of frictions, which prevents the first best allocation
- Examples:
 - Credit market imperfection
 - Property rights and market enabling institutions
 - Incomplete insurance market to hedge risk
- Classical frictions and behavioral frictions
 - Insurance is offered but little takers
 - Better technology is available, but few takers

Choose a size



Self confidence spillover

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Choose a size



Self confidence spillover

Motivation

- Effort is costly and chances of success depend on effort provision.
- Individuals need to be convinced of a reasonable chance of success in order to expend costly effort
- Examples:
 - Student's effort in the exam is linked to her success
 - Investor's decide whether to enter a market or not
 - An Entrepreneur needs to decide whether to follow a business idea or not
 - An Economist needs to decide if pursuing an idea will lead to a successful publication or not
- Imperfect information about their ability may lead people to distort their beliefs to motivate themselves.
- Higher the motivation, greater the effort and greater are the chances to success. (Benabou and Tirole, 2002)

Motivation

- How do people distort their beliefs?
 - Systematic overconfidence
 - Strategic overconfidence
 - Wishful thinking
 - Information avoidance
 - Selective updating
 - Selective memory
- Confidence spillovers: after receiving feedback on one activity, biased individuals may generalize this relative ability advantage in one activity to other.
- **Implications:**
 - Succeeding in sports may lead to overall higher self esteem
 - Performance in languages may lead to higher confidence in Maths
 - Impact of confidence spillovers may be different across low and high status groups

Tasks

- The two tasks should be orthogonal to each other
- Memory task: Call out 15 numbers from 1 to 100.
 - Subjects asked to recall as many numbers as possible in 3 minutes
- Ball-in-the-bucket task: subjects are given 15 balls
 - They are asked to toss them in a bucket 3.5m away.
- Skill requirements are different



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Experimental Design

- Adaptation from Niederle and Vesterlund (2007) and Banerjee et al. (2017)
- Baseline
 - Part 1: Piece rate in the memory task (Rs. 10 for each correct number)
 - Part 2: Tournament in the memory task (Rs. 30 for two best performers, 0 others)
 - Part 3: Choice of compensation in the memory task
 - Part 4: Choice of compensation in the BiB task

Treatments

Treatments	T0 (Baseline)	T1 (Feedback)	T2 (Feedback + single task)
Part 1	M, Piece Rate	M, Piece Rate	BiB, Piece Rate
Part 2	M, Tournament	M, Tournament	BiB, Tournament
Part 3	M, Choice between piece rate and tournament	M, Choice between piece rate and tournament	BiB, Choice between piece rate and tournament
Part 4	BiB, Choice between piece rate and tournament	Info on part 2 result, BiB, Choice between piece rate and tournament	Info on part 2 Result, BiB, Choice between piece rate and tournament
Part 5	Risk elicitation	Risk elicitation	Risk elicitation

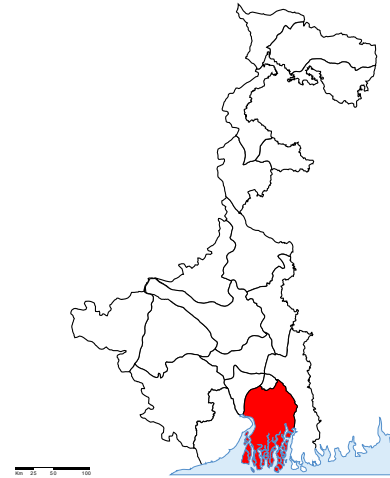
Experimental Context

- Artefactual field experiment in a socially fragmented context in India
- 17 villages from South 24 Parganas district of West Bengal.
- 360 subjects were recruited from the sampled villages
 - 171 subjects were from General category
 - 185 subjects were from Scheduled Caste category
 - 4 subjects were from Scheduled Tribe category
- Subjects were matched in groups of six: 3 each from General and SC

(a) West Bengal



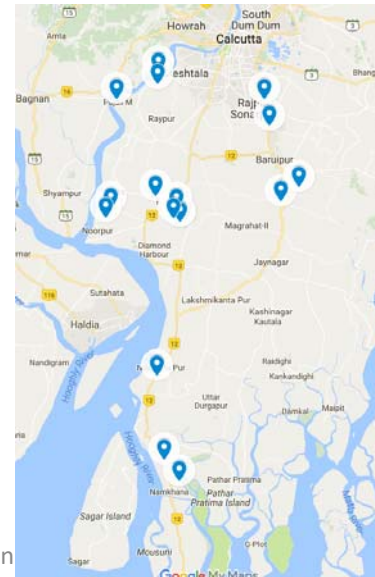
(b) South 24 Paraganas



(c) Blocks within South 24 Paraganas



(d) Sampled Villages and Wards

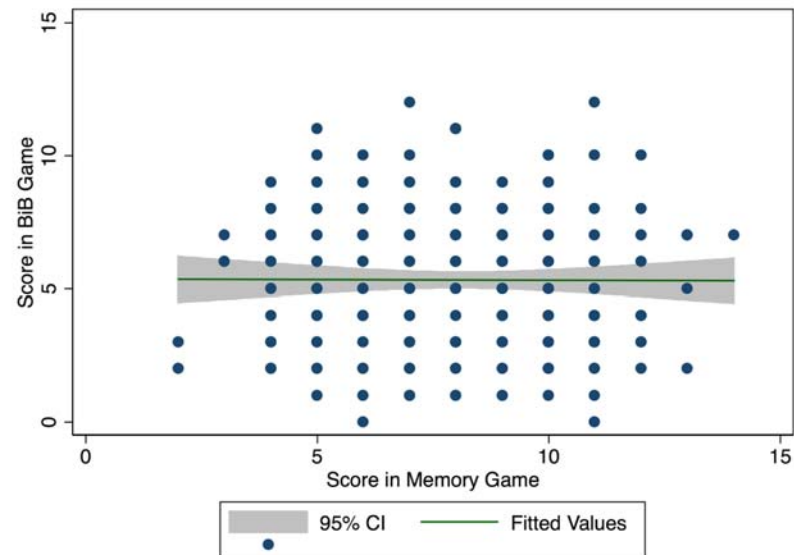


Conjectures

- Benabou and Tirole (2002) framework for a set of testable conjectures
- Conjecture 1: Positive feedback about relative performance in memory task boosts self-confidence in the BiB task
- Conjecture 2: Negative feedback about relative performance in memory task does not significantly affect self confidence in BiB task
- Conjecture 3: After receiving positive (negative, conversely) feedback about their relative performance in the memory task, Scheduled Caste members are more likely to boost (decrease, respectively) their self-confidence about the second task than high caste members.

Results

- Performance in Memory task and BiB task are uncorrelated



Notes: The equation of the fitted line is given below. The numbers in the parentheses below the estimates are the corresponding p -values.

$$\text{Score in BiB Game} = 5.363 - 0.005 * \text{Score in Memory Game}$$

(0.01) (0.945)

Results

Treatment Status in part 2	T0		T1		T3	
	Winner	Loser	Winner	Loser	Winner	Loser
Mean values	3.06	2.08	2.00	1.83	0.75	0.75
Comparison Ti-T0	-	-	-1.06	-0.25	-2.31**	-1.33**
Comparison winner-loser	0.98		0.17		0.00	
Mean values	0.33	0.28	0.59	0.25	0.58	0.20
Comparison Ti-T0	-	-	0.26**	-0.03	0.25*	-0.08
Comparison winner-loser	0.05		0.34**		0.38**	
Mean values	51.54	50.79	64.30	37.48	63.03	38.53
Comparison Ti-T0	-	-	12.76**	-13.3**	11.49**	-12.26*
Comparison winner-loser	0.75		26.82**		24.50**	
<i>Tournament entry rate</i>						
Mean values	0.29	0.27	0.53	0.25	0.57	0.11
Comparison Ti-T0	-	-	0.24*	-0.02	0.28	-0.16**
Comparison winner-loser	0.02		0.28*		0.46**	
Mean values	0.27		0.34		0.26	
Comparison Ti-T0	-		0.07		-0.01	

- **Result 1:** There are spillover effects of winning the forced tournament in the first task on self-confidence and on competitiveness in a subsequent unrelated task. This supports Conjecture 1.
- **Result 2:** The spillover effects across domains are asymmetric. Bad news about relative ability in the first task has no effect on the perceived chance of winning the competition and on competitiveness in the new task. This provides some support to Conjecture 2.

Result

- Result 3: The spillover effects of winning the tournament in the first task on self confidence and tournament entry in the second unrelated task are higher for lower status members than higher status members.
- Result 3 (continued): negative spillover effects of losing on the low status losers' competitiveness but not on their self confidence. Conjecture 3 only partially supported.

Summary

- Artefactual field experiments are useful ways of understanding the deeper processes at work
- Should be used in combination with other methods such as observational data driven studies, field experiments etc.
- Behavioral frictions in the context of development