



Cultural Impediments to Learning to Cooperate: An Experimental Study of High- and Low-Caste Men in Rural India

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Abstract

We report experimental findings on how individuals from different cultures solve a repeated coordination game of common interest. The results overturn earlier findings that fixed pairs are almost assured to coordinate on an efficient and cooperative equilibrium. Subjects in the prior experiments were U.S. university students, whereas the subjects in our study are men drawn from high and low castes in rural India. Most low-caste pairs quickly established an efficient and cooperative convention, but most high-caste pairs did not. The largest difference in behavior occurred when a player suffered a loss because he had tried to cooperate but his partner did not: In this situation, high-caste men were far less likely than low-caste men to continue trying to cooperate in the next period. Our interpretation is that for many high-caste men, the loss from coordination failure triggered retaliation. Our results are robust to controls for education and wealth, and they hold by subcaste as well as by caste status. A survey we conducted supports the ethnographic evidence that more high-caste than low-caste men prefer to retaliate against a slight. We find no evidence that caste differences in trust or self-efficacy explain the caste gap in cooperation in our experiment. Our findings are of general interest because many societies throughout the world have cultures that lead individuals to (mis)perceive some actions as insults and to respond aggressively and dysfunctionally.

Introduction

In all experiments with US university students, small groups of individuals who interact repeatedly are usually able to coordinate on the efficient convention (1-2).

But in many parts of the world, there is persistent dysfunction and waste that could be ameliorated if only it were possible to overcome institutional inertia and shift society from an inefficient convention to an efficient one.

Social and political inertia is how rural North India has been described (3).

We conducted field experiments there to shed light on how individuals from different cultures approach coordination problems.

In our experiment, men from low castes (L) usually formed the efficient convention quickly, similarly to US university students studied in prior work.

But most men from high castes (H) did not form the efficient convention. Some HH pairs (but no LL nor LH pairs) formed the inefficient convention.

The results hold by subcaste, too.

The evidence suggests that H men perceive a loss from coordination failure as a slight rather than as a misunderstanding. To retaliate, they take the non-cooperative action for one period. This impedes partners' ability to converge on expectations that they will both cooperate. It can block learning to cooperate no matter how many periods a pair interact (4).

Methods

The coordination game is the Stag Hunt, the "exemplar of the central problem of the social contract" (5).

- The equilibrium (Stag, Stag) is the social contract, and
- The equilibrium (Hare, Hare) is the "state of nature" (6).

		Player 2	
		Contribute 6 (Hunt stag)	Contribute 2 (Hunt hare)
Player 1	Contribute 6 (Hunt stag)	4, 4	1, -3
	Contribute 2 (Hunt hare)	-3, 1	1, 1

2-player Stag Hunt

From each of 10 villages in North India, we selected representative samples of men from high castes (H) and low castes (L), the formerly untouchable castes

A participant played the Stag Hunt for 5 periods with an H player, and for 5 periods with an L player (with random assignment of order to the subjects).

Players were anonymous. The only thing a player knew about his partner was that he was an H or an L man from his village.

N = 122 Number of pairs = 121 (one pair dropped out)

A player indicated his contribution by moving blue tokens from his endowment into the contribution bin. The experimenter put orange tokens into bins to communicate the partner's move, and blue tokens into bins to indicate the player's payoff.



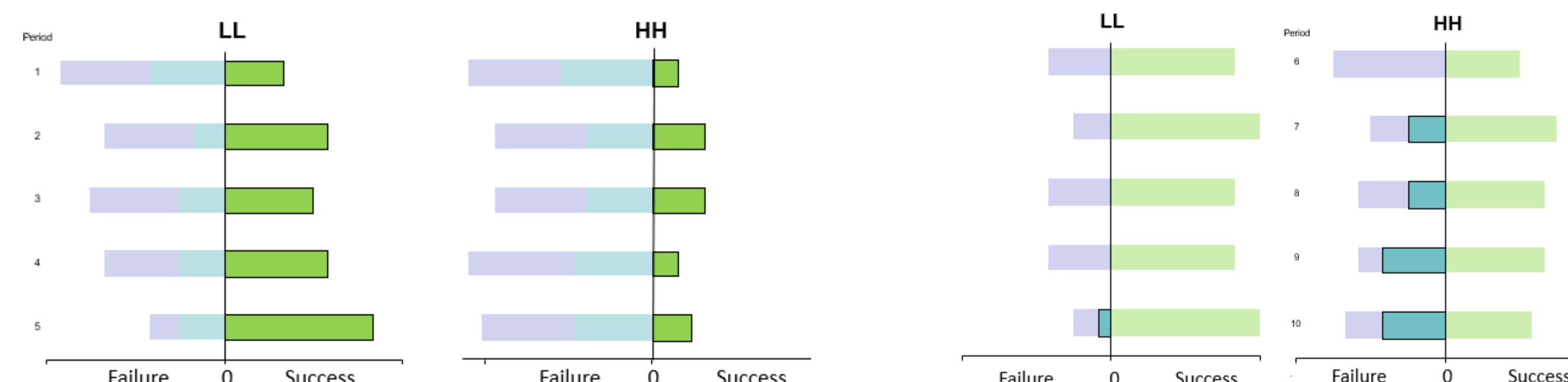
Game Box

Mean earnings were 150% of the unskilled daily wage

A comparison of H and L castes is a good way to study the effect of culture:

- H and L in the sample live in separate hamlets in the same villages. Since they are more like each other in language and location than groups in different countries, they are in that respect better comparison groups for studying the impact of culture..
- The disadvantage is that H and L historically occupied radically different positions in the social structure. But the disadvantage can be overcome since 70 years after the official abolition of untouchability, high and low castes overlap in the distributions of education and wealth

Results: Repeated Stag Hunt



An expansion of the dark bars for LL pairs suggests the emergence of the cooperative convention.

An expansion of the dark bars for HH pairs suggests the emergence of the non-cooperative convention

Dependent variable: Probability of playing Stag (relative to a player in LL)

	Initial period		Preceding outcome was:				Type of player		Impact of player in HH compared to LL on probability of playing Stag if preceding outcome was (Stag,Hare) (with controls)	
	(Stag, Stag)	(Stag, Hare)	(Stag, Stag)	(Stag, Hare)	(Hare, Stag)	(Hare, Hare)	If the players live in mud huts (N = 73)	If the players do not live in mud huts (N = 108)		
HH	-0.135 (0.0730)	-0.135 (0.0890)	0.0184 (0.0466)	0.0305 (0.0585)	-0.364** (0.110)	-0.402** (0.115)	-0.192 (0.071)	-0.140 (0.071)	-0.233 (0.190)	-0.249 (0.189)
H in LH	-0.101 (0.102)	-0.087 (0.101)	-0.00567 (0.0563)	0.00553 (0.0620)	0.126 (0.129)	0.175 (0.131)	0.201 (0.0958)	-0.128 (0.129)	-0.0953 (0.217)	-0.110 (0.208)
L in LH	0.0930 (0.0882)	0.0884 (0.0873)	0.0247 (0.0363)	0.0158 (0.0387)	0.0451 (0.139)	0.0673 (0.171)	-0.191 (0.117)	-0.130 (0.130)	0.0320 (0.169)	0.00150 (0.160)
Type	0.356*** (0.0247)		0.09659* (0.0443)		-0.0176 (0.047)		0.177 (0.120)		-0.107 (0.106)	
Land	0.00592 (0.00405)		0.00134 (0.00341)		0.00558 (0.00466)		-0.00187 (0.00853)		-0.00793 (0.00776)	
High school	0.00595 (0.0799)		0.00246 (0.0407)		-0.0748 (0.0810)		-0.0434 (0.101)		-0.181 (0.122)	
Non-mud house	0.0058 (0.0636)		0.0224 (0.0482)		0.0056 (0.0863)		0.0391 (0.100)		0.0482 (0.104)	
N	242	242	452	452	181	181	181	181	154	154
Pseudo R ²	0.017	0.101	0.002	0.030	0.082	0.091	0.019	0.036	0.042	0.078

*p < 0.05, **p < 0.01, ***p < 0.001

The tables show that the probability of playing Stag diverges between HH and LL pairs after a player incurs a loss in a coordination failure: Controlling for trust ("type"), education, and proxies for wealth, H players are 40 percentage points less likely to play Stag than L players. We interpret not playing Stag after a loss as retaliation.

The poorest households live in thatched mud huts. 19% of H and 63% of L players live in mud huts. Running the regressions in the left panel separately for players who live in mud huts shows that poor H players are 72 percentage points more likely than poor L players to retaliate after a loss from miscoordination with a same caste-status partner.

Vignette-based survey

We find that H and L individuals would respond in the same way to a thief who robbed them; but H individuals would be more than twice as likely as L to retaliate to a harm that was an incidental effect of another's action.

Examples of aggressive responses:

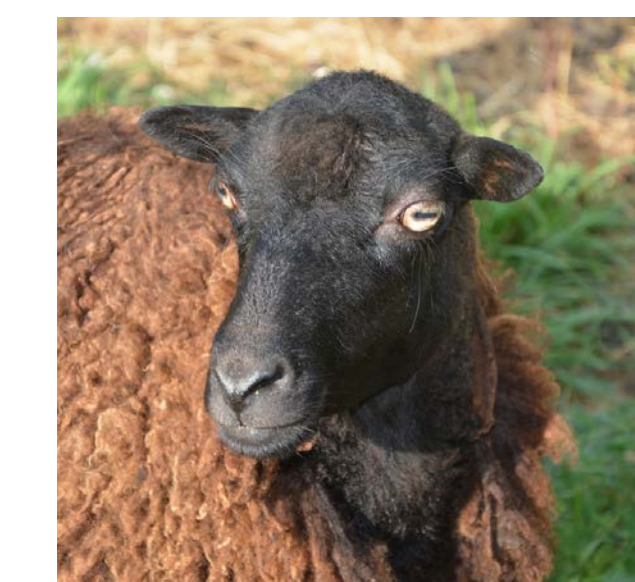
- "I would do the same [beat him violently] because I lost my honor."
- "I would do tit-for-tat, otherwise people will think I am weak."

Ethnographic evidence on revenge-taking

"A defining characteristic of masculinity ...has been the concept of revenge... [Males who are L] are not considered men at all by upper caste men... [Even the poorest H] claim to share the masculine attributes of their higher-class members" (7),

This may explain why H who live in mud houses are particularly likely to take revenge. The poorest high-caste men (the least secure about their high-caste status) may need to retaliate to feel good.

H players may punish an H more than an L because expectations that H would do the "right" thing are higher for H than L. An H partner's failure to cooperate might be perceived as deserving of punishment (an example of "the black sheep effect" (8)).



Conclusions

We do not definitively prove that differences between H and L in construal and in norms of honor and retaliation cause the differences in coordination.

But we are able to rule out the leading alternative explanations: wealth, kinship structure, education, trust, self-efficacy.

The evidence suggests that norms of retaliation for a loss cause many H players to retaliate after they have incurred a loss in a coordination failure.

We show theoretically that this retaliation for one period following a loss can block the emergence of the efficient convention (the "social contract") even in infinite rounds of play. In that sense, it can block learning to cooperate.

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