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We conduct an artefactual field experiment to examine various spillover effects of Affirmative Action policies in the context of castes in India. We test a) if individuals who enter tournaments in the presence of Affirmative Action policies remain competitive after the policy has been removed, and b) whether having been exposed to the policy generates unethical behavior and spite against subjects from the category who has benefited from the policy. We find that these policies substantially increase the confidence and the competitiveness of the backward caste members. However, we find no spillover effect on confidence and competitiveness once Affirmative Action is withdrawn: any gain in competitiveness due to the policy is then entirely wiped out. Furthermore, the strong existing bias of the dominant category against the backward category is not significantly aggravated by Affirmative Action, except when individuals learn that they have lost the previous competition.

Keywords:
Affirmative Action, castes, competitiveness, unethical behavior, field experiment

JEL codes:
C70, C91, J16, J24, J31, M52

Working Paper

The Spillover Effects of Affirmative Action on Competitiveness and Unethical Behavior

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1. Introduction

Affirmative Action policies have developed in various contexts to facilitate the access to more rewarding positions of groups of the population that suffer from lower status in society, most of the time by means of quotas. Many aim at reducing the gender gap in the access to the boards of large companies or to parliaments,[1] but examples can be found also in the context of highly segmented societies, as in India where the objective is to reduce the gap between castes in the access to higher education and jobs (*e.g.*, Deshpande, 2011).

These policies have pros and cons. On the one hand, they help fight the underrepresentation of some categories whose ability does not differ on average from that of the more represented categories (OECD, 2012), and they reduce stereotypes (Beaman *et al.*, 2009). They can also possibly improve the confidence of beneficiaries in the longer run. On the other hand, they may generate efficiency losses and resentment, and even discouragement if they lead to more able employees being passed over for less able but more protected employees (Holzer and Neumark, 2000) or if no able person can be found (Ahern and Dittmar, 2012). Despite an emerging literature on this topic (Pande, 2003; Besley *et al*, 2004; Fryer and Loury, 2005; Duflo, 2005; Bertrand *et al.*, 2014), little is known about the causal effects of reservation policies and their spillover effects. Laboratory experiments have shown that in a setting where high-performing females shy away from competition (Niederle and Vesterlund, 2007; Datta Gupta *et al.*, 2013), introducing quotas substantially increases females' competitiveness (Nierdele *et al.*, 2013). The surge in the supply of high-performing individuals to the competitive pool more than outweighs the costs of the program. Balafoutas and Sutter (2012) confirm that Affirmative Action reduces the gender gap without harming male competitors. However, except in the last study showing that post-tournament cooperativeness is not affected and in Leibrandt *et al.* (2015) who, on the contrary, found a strong backlash against females

[1] See for example, http://www.bloomberg.com/news/articles/2015-07-01/can-gender-quotas-get-more-women-into-boardrooms-, and European Commission (2015).

when quotas are in use, we know very little about the spillover effects of Affirmative Action, especially when the origin of the division between groups is associated with a strong and historical segmentation of society. This is an important question, however, since this illustrates how institutions can influence the evolution of preferences (*e.g.*, Fehr and Hoff, 2011).

Our main objective is investigating two types of spillover effects of Affirmative Action, using natural group identities. First, we study whether such policies, if effective when implemented, keep having an impact on the beneficiaries once they are withdrawn and whether this is conditional on the information received about past success in a competition. It has been found that feedback in a repeated competition reduces the gender gap in competitiveness (Wozniak *et al.*, 2014) but we do not know whether this applies to a context with Affirmative Action. Are people helped by Affirmative Action still willing to compete in the same proportion when they no longer benefit from the support of the policy? How do such policies affect the desire to compete among the unprotected category? Do the winners from the supported category learn from their success and revise their beliefs about their relative ability?

The second spillover effect investigated is the possible spiteful behavior by people from the category who did not benefit from Affirmative Action towards people from the other category. Indeed, if Affirmative Action is perceived by this category as unfair (for example because they fear that more able individuals from their own group are passed over in competition by less able individuals from the other group or because the lower status people do not need any help to compete), it may generate spite against the protected members. Indeed, it has been shown that feelings of injustice can lead to sabotage (*e.g.*, Ambrose *et al.*, 2002; Leibrandt *et al.*, 2015) and that Affirmative Action is less effective when considered as based on an illegitimate criterion (Balafoutas *et al.*, 2016). The policy may also lead some subjects to cheat to compensate for the possible disadvantage introduced by Affirmative Action. On the beneficiary category's side, if Affirmative Action encourages competitiveness, a feeling of

entitlement may increase moral flexibility.[2] If the policy targeting reinforces group identity (*e.g.*, Akerlof and Kranton, 2000; Chen and Li, 2009), it may increase hostility against out-groups; or the opposite could occur, the policy may weaken the initial group identity and lead the beneficiaries to feel more like people from the other category.

To study these spillover effects, we have designed an artefactual field experiment (Harrison and List, 2004) with castes in India. We recruited 840 participants in 37 villages from South 24 Parganas district of West Bengal. About half of them were from the General Category and the other half were from the Scheduled Castes.[3] Beyond allowing us to test the robustness of previous findings with a different natural group than males and females, India offers an interesting setting. Indeed, this society is deeply segmented and has introduced Affirmative Action very early, with the aim of facilitating the access of lower caste members to jobs in the public sector.[4] We offer the first study investigating whether the lower status associated with belonging to a Scheduled Caste gives rise not only to less self-confidence in one's own ability but also to less competitiveness, and how this is affected by Affirmative Action.[5] The strong status segmentation associated with castes may also give rise to more resentment about this policy if the latter is seen as questioning the "natural" hierarchy. If we do not find a negative spillover effect of AA on spite and unethical behavior in this environment, it might suggest that the risk of such a negative spillover in another, less segmented, environment is limited.

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[2] For example, Schurr and Ritov (2016) show that winning a competition leads to more subsequent dishonest reporting in a standard die-under-cup task, probably because of a higher feeling of entitlement.

[3] The Scheduled Castes represent 16.6% of the general population in India and the General category about 34% (the rest belong to Scheduled tribes, 8.6%, and Other Backward categories, 41%) (Census 2011).

[4] Largely due to the British colonial regime who made the caste system the central organization of the administration in India, jobs in public administration and senior appointments were allotted based on castes, leading to the over-representation of employees from the upper castes (*e.g.*, de Zwart, 2000). To curb this stratification and occupational endogamy, a percentage of jobs in the administration has been reserved for employees from lower castes, a policy starting already after the '20s. After independence, lists of Scheduled Castes ("*Dalit*" or Untouchables), based on heredity, have been established for caste-based job reservations. In 1989, the parliament adopted the Scheduled Castes and Scheduled Tribes Act. In the two lowest of the four categories of jobs in public administration, the share of employees from the Scheduled Castes is similar to their share in the population, but there is still a high discrepancy for the two highest categories of jobs. Discrimination remains also important in the private sector (*e.g.*, Thorat and Attewell, 2010; Siddique, 2011).

[5] Of course, we do not assume that the lower access of Scheduled Caste members of similar ability to upper tier jobs results only from a different degree of competitiveness. Other factors, including discrimination, also matter.

Our experiment consists of four treatments. The structure of the Baseline is close to that of Niederle and Vesterlund (2007). In the first part, subjects had to perform a real-effort task under an individual piece rate payment scheme. In the second part, they performed the same task under a tournament scheme in groups of six performers with two winners. After experimenting with both schemes, in the third part subjects were given the opportunity to choose the payment scheme to be applied to their performance in this part. Choosing the tournament indicates the players' competitiveness. In the fourth part, subjects chose the payment scheme to be applied to their performance in the first part, giving us an additional measure of competitiveness. Treatment 1 is similar to the Baseline, except that subjects were informed that their group consists of subjects from both castes in equal proportions. This allows us to test whether self-confidence, performance and competitiveness are affected by making the caste composition of the group common information. Indeed, previous studies have found that when caste identity is made public, a gap in performance favoring the high caste emerges and learning by the low caste is impaired (Hoff and Pandey, 2006; 2014). This accords with the notions of *stereotype threat* (*i.e.*, being reminded of their low status decreases the self-confidence of the low-caste individuals and make them conform to the stereotype formed about their social group) and *stereotype boost* (*i.e.*, high-caste individuals feel encouraged because they are reminded of their high status) (Steele and Aronson, 1995; Shi *et al.*, 2011).

Treatments 2 and 3 introduce Affirmative Action. In parts 2 to 4 of treatment 2, a quota imposes that one of the two winners in the tournament is the best performer of the Scheduled Caste. In treatment 3, a preferential treatment increases the score of the Scheduled Caste subjects in the tournament by a fixed amount. To measure their spillover effects on future competitiveness, part 4 includes two successive choices between submitting performance in part 1 to either a piece rate or a tournament, the first one in the presence of Affirmative Action and the second one without. The spillover is identified through the evolution of beliefs about

one's performance rank and the comparison between the choice of the tournament in the two decisions. To measure the role of previous success on spillovers, we conducted a variant of treatment 2 in which players are informed about their outcome in the forced competition in part 2 before making their last decision in part 4 when the quota policy is removed.

To measure the spillover of Affirmative Action on spite and cheating, in the fifth part of all treatments subjects had to roll dice (Fischbacher and Föllmi-Heusi, 2013, and Shalvi *et al.*, 2011). Earnings were proportional to the reported side of the die that faced up. By misreporting the random outcome, subjects could increase their payoff at no risk of detection. An original aspect is introducing either positive or negative externalities.[6] Indeed, the subjects' reports determined both their earnings and that of another subject. We manipulated between-subjects whether or not the interests of the two players were aligned, allowing for Pareto-white lies or selfish black lies.[7] We manipulated within-subjects whether the matched partner was from own or the other caste. We test whether people are more (less) willing to lie to benefit themselves and an in-group (an out-group) when payoffs are aligned, and less (more) willing to lie to avoid harming an in-group (to harm an out-group) when they are unaligned. The comparison between treatments indicates whether Affirmative Action affects a possible out-group bias.

Our main findings show that without Affirmative Action, the revelation of castes generates a significant caste gap in absolute and relative self-confidence but not in terms of competitiveness. Affirmative Action slightly increases the perceived chance of the Scheduled

[6] We also differ from Leibrandt *et al*. (2015) because in their experiment subjects could misreport others' performance. Here, subjects can misreport a random outcome with no interference with another player's action.

[7] By analyzing how group identity influences lying, we also make a contribution to this literature since the role of identity in lying has been little explored. Studying the contagion of dishonesty among peers, Gino et al. (2009) and Dimant (2016) show that contagion is more likely among in-groups than when social identification with peers is lower. In a game in which the die roller receives a fixed payoff, Jiang (2015) find that people with a strong in-group bias do not cheat more to benefit an in-group than another subject. Cadsby *et al*. (2016) show evidence of dishonesty to benefit oneself and in-groups against out-groups, but they have no condition in which reporting determines the payoff of both the die roller and an in-group. Hruschka *et al*. (2014) compare a condition in which the die roller can benefit an in-group or an out-group, and a condition in which the self is opposed to an out-group. They show that in societies with stronger institutions, people are more likely to follow an impartial rule instead of favoring in-groups or themselves. In contrast, our active player is always matched either with an out-group or an in-group and payoffs are aligned or not, which offers a more complete picture.

Castes subjects of being the winner. It discourages the entry of General category subjects and encourages that of the Scheduled Castes subjects. As a result, the caste gap in competitiveness becomes significant to the advantage of the Scheduled Caste subjects.

Regarding the first spillover, we find that as soon as Affirmative Action is removed, the percentage of the Scheduled Castes subjects entering the tournament decreases sharply while that of the General category subjects increases. As a result, the gap in competitiveness is reversed. This is observed even when subjects have received feedback on whether they won or lost the previous forced competition. If the objective is to change self-confidence, these policies may need to be in place durably. To measure the second spillover, we estimate the mean lying rate when matched with out-groups *vs.* in-groups, conditional on whether payoffs are aligned or not. The General category subjects express a strong bias against the Scheduled Castes members.[8] Affirmative Action tends to increase it slightly, but not significantly so, which suggests that this policy is accepted as legitimate. However, when they are able to learn their outcome in a previous competition and when they have lost the tournament under Affirmative Action, General category subjects are more likely to cheat spitefully. Overall, in this highly-segmented society Affirmative Action does not generate the bias against the protected category, and it does not increase it except when non-protected individuals have lost competition. In a less segmented environment the intervention might have even less negative spillover effects.

The remainder of this paper is as follows. Section 2 develops the experimental design and procedures. Section 3 presents our findings. Section 4 discusses these results and concludes.

2. Experimental design, procedures and predictions

We first present our experimental design, then our procedures. Finally, we develop our behavioral predictions.

[8] This is consistent with Piff *et al.* (2012) who found that high status in society predicts higher unethical behavior, and with Fehr *et al.* (2008) who show that spitefulness is more prevalent among people belonging to high castes in India than among those from low castes (see also Hoff *et al.*, 2011).

2.1. Experimental design

The experimental design comprises of five treatments that vary information about the caste composition of the group and the rules for determining the winners in a tournament. Each treatment has multiple parts. One part is randomly selected for payment to prevent hedging. In each of the first three parts of each treatment, subjects are asked to perform a real-effort task. We first describe the task, then the Baseline treatment and finally, each of the other treatments.

The task

The task consists of a memory test. Indeed, stereotype threat has been shown to reduce working memory, in particular the phonological (sound of language) loop (Beilock *et al.*, 2007). Recalling a series of numbers that are dictated is a suitable test of stereotype threat. 15 randomly selected numbers between 0 and 100 are called out, one at a time. The subject has to recall and write down as many numbers as possible in the allotted 3 minutes *after* all the numbers have been called out. The score is given by the number of correctly recalled numbers. No feedback is provided on absolute or relative performance in any part before the end of the session, except in the T2-Feedback treatment, as explained below.

Baseline treatment

The sequence of the Baseline treatment (T0, henceforth) is quite similar to that of Niederle and Vesterlund (2007). Subjects are informed that they are part of a group of six that remains fixed throughout most parts of the experiment, but they are not informed about the caste composition of this group. In fact, each session comprises of 12 subjects with six from the Scheduled Castes (SC, hereafter) and six from General category (GC, hereafter). In each group, there are three SC and three GC subjects. The content of parts and the compensation schemes are as follows.

Part 1 – Piece Rate: Payoff depends exclusively on the individual absolute performance. Subjects are paid 10 Indian Rupee for every correctly recalled number in the allotted three minutes (INR 10 = $ 0.15 = $ 0.56 in 2015 Purchasing Power Parity).

Part 2 – Tournament: The top two performers in each group of six players are declared "winners". Each winner is paid a piece rate of INR 30 for every correctly recalled number. The non-winners are not paid anything. In case of a tie, the winners are chosen randomly.

Part 3 - Choice of compensation scheme for future performance: Before performing the memory task again, subjects have to choose whether they want to be paid by piece rate or tournament. Part 3 tournament winners are decided by comparing the score of competitors in part 3 relative to the part 2 score of the group members (to avoid the effect of self-selection that occurs in part 3). Presenting subjects both compensation schemes in the first two parts before letting them choose allows them to experience first-hand what the otherwise abstract compensation schemes mean. It also helps us map performance metric to the choice of competition.

Part 4 - Choice of compensation scheme for past performance: Contrary to the previous parts, subjects do not perform the memory task henceforth but are asked to choose the compensation scheme they want to be applied to their performance in part 1. Part 4 helps us disentangle whether observed effects arise because of taste for competition or from instrumental value of competition (*i.e.*, possibly higher monetary reward) since here subjects do not perform the task.

Part 5 – Die Roll: This task is inspired by the die-under-the-cup task of Fischbacher and Föllmi-Heusi (2013) and Shalvi *et al*. (2011). Each subject has to roll two dice successively, one red and one blue, and report the outcomes. Each outcome can potentially determine an additional payoff for themselves and for another participant in the session. Each die is put in a cup closed with a lid. A hole in the lid allows only the subject to see the outcome of a die roll, which should remove any possible feeling of scrutiny by anyone. Before each report, subjects are instructed to roll the die twice to check that the die is fair but only report the first outcome. A random draw at the end of the session determines which decision in each pair counts for payment.

For part 5, we use two conditions across sessions. Condition 5A allows for black lies. The payoffs of the subject who rolls the die and of his matched partner are unaligned, as indicated in Table 1: the roller cannot increase his payoff by lying without reducing the payoff of his partner. In contrast, condition 5B allows for Pareto-improving lies. Here, payoffs are aligned: the payoffs of both players increase with the number reported. In the two conditions the subject always earns more the higher the number he reports, which gives him an incentive to inflate the reported number. However, social preferences may affect behavior, as a subject who misreports helps or harms another player, depending on the condition. Thus, these conditions indicate the sensitivity of lying to the consequence of a lie on others. If the task does not allow us to identify cheating at the individual level, we can measure it at the caste level.

Table 1. Payoffs in the die task in part 5 (in Indian Rupees)

Outcome reported	1	2	3	4	5	6
Condition 5A -Unaligned payoffs						
Payoff of the roller in INR	10	20	30	40	50	60
Payoff of the other in INR	60	50	40	30	20	10
Condition 5B - Aligned payoffs						
Payoff of the roller in INR	10	20	30	40	50	60
Payoff of the other in INR	10	20	30	40	50	60

Part 6 – Risk Elicitation: In this final part, we use a risk elicitation task inspired from Gneezy and Potters (1997). Subjects can invest any amount of a given endowment of INR 100 in a risky project. With 50% chance the amount invested is trebled and with 50% chance it is lost. The final payoff is therefore the initial endowment minus the invested amount, plus the return of the investment. Invested amounts others than the total endowment indicate risk aversion.

Other treatments

Treatment 1 – This treatment replicates the Baseline treatment, except that the caste composition of the group is made common information from the very beginning, while preserving anonymity. Moreover, in part 5, each subject is informed that if this part is selected for payment, his report using the blue die determines both his payoff and that of another player

from his own caste, while the report using the red die determines his payoff and that of another player from the other caste. This allows us to investigate whether behavior is conditional on the caste identity of the matched player, while the aligned and unaligned payoff structures are expected to capture the tension between caste identity and payoffs. Indeed, the decision to misreport may now depend on the willingness to help or harm an in-group or an out-group.

Similar to treatment 1, in treatments 2 and 3 the caste composition of the groups is made common information. But now, Affirmative Action (AA, hereafter) is introduced.

Treatment 2 - A quota based AA is introduced in parts 2, 3 and 4A. In quota tournament, one of the two winners is necessarily the best performer from the Scheduled Castes category and the other one is the top performing subject among the remaining five. In part 4B, the quota intervention is withdrawn and the choice is between piece rate and the regular tournament.

Treatment 2-Feedback – This treatment is a variant of treatment 2. The only difference is that at the beginning of part 4B, all the subjects are informed on whether they won or lost the tournament in part 2 (when the tournament was compulsory for all subjects). This information may affect their choice to compete when the quota is removed in part 4B.

Treatment 3 - Here, we introduce a Preferential Treatment (PT) based AA in parts 2, 3 and 4A. In PT tournament, a SC subject is awarded 2 bonus points and her final score is her actual score +2. A GC subject is not awarded any bonus point. Those with the top two final scores are the two winners in PT tournament. In part 4B, the intervention is withdrawn.

Table 2. Summary of the experimental design

	Baseline (No info on caste composition of group)	*Treatment 1* (Info on caste composition of group)	*Treatment 2* (Quota based tournament)	*Treatment 2-Feedback* (Quota based Tournament with feedback)	*Treatment 3* (Preferential Treatment based tournament)
Part 1	Piece rate	Piece rate	Piece rate	Piece rate	Piece rate
Part 2	Tournament	Tournament	Quota tournament	Quota tournament	PT tournament
Part 3	Choice: Piece rate vs. Tournament	Choice: Piece rate vs. Tournament	Choice: Piece rate vs. Quota tournament	Choice: Piece rate vs. Quota tournament	Choice: Piece rate vs. PT tournament
Part 4*	Choice: Piece rate vs. Tournament for part 1 score	Choice: Piece rate vs. Tournament for part 1 score	Choice: Piece rate vs. Quota tournament for part 1 score	Choice: Piece rate vs. Quota tournament for part 1 score	Choice: Piece rate vs. PT tournament for part 1 score
Part 4B			Choice: Piece rate vs. Tournament for part 1 score	Feedback on success in part 2 Choice: Piece rate vs. Tournament for part 1 score	Choice: Piece rate vs. Tournament for part 1 score
Part 5	Dice roll	Dice roll	Dice roll	Dice roll	Dice roll
Condition 5A†	Unaligned payoffs	Unaligned payoffs	Unaligned payoffs	Unaligned payoffs	Unaligned payoffs
Condition 5B	Aligned payoffs	Aligned payoffs	Aligned payoffs	Aligned payoffs	Aligned payoffs
Part 6	Risk elicitation	Risk elicitation	Risk elicitation	Risk elicitation	Risk elicitation

***Notes*: * Part 4 denotes part 4A in treatment 2 and 3. †** Sessions **were randomly assigned to condition 5A or condition 5B.**

In treatments 2, 2-Feedback, and 3, the withdrawal of AA in part 4B aims to elicit the spillover effects of these policies on self-confidence and competitiveness. Treatments 2 and 3 allow us to identify whether having competed with a potential advantage in the past (but without any feedback) is sufficient to encourage the lower caste subjects to compete without the AA intervention. The comparison between treatments 2 and 2-Feedback indicates whether or not the potential persistent effect of AA on self-confidence and competitiveness requires more information on relative ability in order to develop. In part 5 we can observe whether the reporting of the die outcomes is affected by the previous implementation of AA. Table 2 summarizes the main characteristics of our experimental design.

Belief elicitation

At the end of each part, subjects are asked to report their beliefs about their absolute and their relative performance. Absolute self-confidence is captured using the question: "How many numbers do you think you have correctly written down?". Relative self-confidence (or self-placement) is captured using two questions: "Between 1 and 6, which rank do you think you have got, compared to the five other group members?" and "What is the chance, in percent, that you will be among the winners of your group?", to measure the strength of the belief on being a winner. In treatments 2 and 2-Feedback subjects also report their perceived rank within their caste. In treatment 3 they have to guess their rank based on the final score (including the 2-point bonus given to the SC subjects). A small incentive encouraged subjects to report their beliefs truthfully without introducing hedging problems. The incentivizing procedure has been kept as simple as possible to make them comprehensible to the subject pool.[9]

[9] See instructions in Appendix 1. We paid subjects for one of their beliefs, randomly drawn at the end of the session. A correct guess about one's score or about one's rank was paid Rs.50 in addition to the other earnings. For the estimate of the chance, in percent, of being a winner, the calculation is more complex. We asked subjects to indicate any number between 0 and 100, with 0 if they are absolutely sure they are not among the top two, 100 if they are absolutely sure that they are among the top two, and some number in between 0 and 100 depending on how sure they are of being among the top two. Subjects could receive a maximum bonus of Rs.50 and a minimum bonus of Rs.0 for answering this question. We simply told the subjects that the more truthful they are in their report, the higher the bonus will be. In other words, they are told that their best interest is to report their belief truthfully. We also proposed to them, if they were interested, to explain the details of the procedure at the end of

We elicited these three beliefs (absolute performance, being a winner, chances of being a winner) to have a better perception of the subjects' beliefs about their own ability, and about their ability compared to others. Since in none of the treatments did subjects receive feedback in any part about their score or the score of others, this gives us rich data on the evolution of self-confidence across parts, in particular before, during, and after the AA interventions. This helps us to identify whether the SC subjects suffer from a stereotype threat (through the beliefs about their absolute performance) and also to map self-confidence to competitive attitudes (as choosing to compete should be associated with higher beliefs about being a winner).

2.2.Experimental procedures

We recruited subjects from South 24 Parganas district of West Bengal. One third of the total number of blocks in the district were randomly chosen. A stratified sample of 3% of village/ward was chosen from each block [10] The maps of the sampled blocks and the villages/wards are given in Appendix 2. From each sampled unit 12 to 24 subjects were recruited using convenience sampling. Local intelligence helped us strike a balance between the number of GC and SC subjects. In total, we had 37 villages and 840 subjects in our study. This includes 428 GC, 395 SC and 17 subjects from other castes (Other Backward Caste or Schedule Tribes) that we pool with the SC subjects in the data analysis.

Brief descriptive statistics of the subject pool across the four treatments are reported in Table A1 in Appendix 3. The subject composition is balanced across treatments. 44-48% are females. About 48-52% belong to the SC category. Subjects are willing to invest between INR 38-46 in the risk elicitation game, which denotes a relatively high degree of risk aversion. Mean age is 20.38-21.94 years. Two-tailed non-parametric tests indicate that very few pairwise

the session. Indeed, we thought that it was too complex to develop this during the session. We give the details about the incentivized procedure in Figure A4 in Appendix 5.

[10] The census data which was used for sampling purposes identifies at the village or ward-of-a-town level.

treatment comparison are significant (compared to the Baseline, mean age is lower in T1, mean education and family income are higher in T2-Feedback).

Each session comprised of 12 subjects and was randomly assigned to one of the main treatments and one of the two part 5 conditions.[11] Upon arrival, subjects were randomly assigned to a desk in public facilities (schools, open spaces, …) where they received a set of instructions and two cups with the blue and red dice. Instructions for the next part were distributed after completion of the previous part. All questions were answered in private. Appendix 4 displays pictures of some sessions. Each session lasted between 75 and 90 minutes. Subjects were given a show up fee of INR 100. Earnings from the game ranged from INR 100 to INR 550 with an average of INR 275 (~$15.3 in 2015 PPP terms).

2.3. Behavioral conjectures

We now present four main behavioral conjectures.

Our first conjecture is that SC subjects may suffer from a stereotype threat when their group identity is made common information, compared to a setting where castes are kept silent. This stereotype threat has already been identified in the literature, especially in highly segmented societies. We expect to observe it through a lower mean score in the memory task and a lower confidence in absolute and relative performance levels for the SC subjects when caste is made salient compared to when it is not. We can also test for the stereotype boost in the GC subjects.

Our second conjecture is that AA interventions boost the self-confidence of the subjects who are eligible to the policy and increase their competitiveness. The prospect of benefiting from a quota or from a score bonus when choosing the tournament should counteract the effect of the stereotype threat, if any. This has been observed in studies where the same types of intervention increased the competitiveness of the most able females and reduced the gender gap in competitiveness (Niederle and Vesterlund, 2007; Balafoutas and Sutter, 2012).

[11] Except for the T2-Feedback treatment, as the data for this treatment have been collected in isolation in a second wave, about one year after the first wave.

Our third conjecture is that the subjects from the category that previously benefited from AA increase on average their confidence about their chance to win a tournament and hence, they stay more competitive even after the AA interventions have been withdrawn. We expect that having experienced the tournament payment scheme with the support of AA policies should help subjects from the protected caste to revise upwards their beliefs about their ability to win a competition. If so, this should encourage them to compete more after than without the introduction of these measures. This effect should be reinforced in the T2-Feedback treatment for the subjects who learn that they won the competition in part 2 when tournament was compulsory because this should help them revise their beliefs.

Our last conjecture is related to the spillover effect of the AA interventions on lying. Based on the literature on dishonesty (Fischbacher and Föllmi-Heusi, 2013; Abeler *et al.*, 2016), we expect that not all subjects lie and not in full. We also know from Balafoutas *et al.* (2016) that AA has a different impact on behavior if this type of policy is perceived favorably or not within the affected group. We conjecture that if they do not find the AA intervention legitimate, the subjects from the non-protected category increase their bias (if any) against the subjects from the other caste, compared to a setting without AA. In particular, they may forego benefits from misreporting the die outcome when lying also increases the payoff of a member from another caste; the reverse may also happen, they may lie more when such a lie increases their own payoff and decreases at the same time the payoff of a protected out-group. We expect that this effect is reinforced in the T2-Feedback treatment when the GC subjects learn that they have lost the tournament in part 2 because they may attribute this failure to the AA policy (possibly rightly).

3. Results

First, we present our results on the existence of a stereotype threat/boost, on the willingness of subjects from different castes to compete, and on the impact of AA on the decision to enter the

tournament across castes. Next, we study the spillover effects of AA on confidence and competitiveness once the intervention is removed. Finally, we focus on its spillover effects on lying behavior and on the in-group/out-group bias. We comment only the results of the quota interventions (treatments T2 and T2-Feedback); the results of the Preferential Treatment (T3) are qualitatively similar to those in T2 and can simply be seen from the various tables.

3.1. Stereotype threat, competitiveness, and the impact of AA

Our first result can be stated as follows.

Result 1. Caste-related stereotype threat and boost work via beliefs, not via performance. Our first conjecture is only supported for self-confidence.

Support for Result 1. Table 3 displays mean scores by caste and treatment in each part.[12] We first test whether our two groups perform differently when caste is made common information, without the AA intervention. We compare the memory score difference in part 2 (when tournament is compulsory) between T1 and T0, for GC and SC subjects. This is the appropriate test since the other treatments confound caste revelation with the degree of competition and AA, hence the existence of pure stereotype threat cannot be cleanly inferred.[13] The mean score of the GC subjects is 8.51 in T0 and 8.69 in T1 (t-test, clustered p=0.74). For the SC subjects, the mean score is 8.70 in T0 and 8.33 in T1 (t-test, clustered p=0.37). The caste performance gap in T0 is not significant and for neither group does performance change significantly from T0 to T1, although GC subjects increase their performance while the SC subjects lowers theirs, in line with the notions of stereotype boost and stereotype threat, respectively.

[12] Table A2 in Appendix 3 displays the same information for those subjects who chose the piece-rate and those who chose the tournament payment scheme in part 3, separately.

[13] No significant differences in performance are found in most of the other treatments either. We find no difference between castes either when considering scores in part 1 instead of part 2 (t-test, p=0.40, as shown in Figure A1 in Appendix 5 (top right panel). Figure A1 reveals no difference in score in part 1 across treatments. Only in T2-Feedback, the GC score better than in T0 in part 2 and the SC score better in part 3.

Table 3. Mean performance

Treatment	T0		T1		T2		T2-Feedback		T3	
Caste	GC	SC	GC	SC	GC	SC	GC	SC	GC	SC
Memory score in Part 1										
- Mean score	8.18	8.06	8.01	7.61	8.15	8.23	8.26	8.16	8.17	8.01
- Diff. T*i*-T0			-0.17	-0.45	-0.03	0.17	0.08	0.1	-0.01	-0.05
- Diff. GC-SC	0.12		0.39		-0.08		0.1		0.16	
Memory score in part 2										
- Mean score	8.51	8.70	8.69	8.32	9.21	8.86	9.25	8.89	8.53	8.26
- Diff. T*i*-T0			0.18	-0.38	0.7	0.16	0.74**	0.19	0.02	-0.44
- Diff. GC-SC	-0.19		0.37		0.35		0.36		0.27	
Memory score in part 3										
- Mean score	7.47	7.23	7.6	7.19	7.49	7.51	8.09	8.12	7.47	7.45
- Diff. T*i*-T0			0.13	-0.04	0.02	0.28	0.62	0.89**	0	0.22
- Diff. GC-SC	0.24		0.41		-0.02		-0.03		0.02	
Memory score in all parts										
- Mean score	24.16	24	24.31	23.13	24.85	24.59	25.61	25.17	24.17	23.72
- Diff. T*i*-T0			0.15	-0.87	0.69	0.59	0.45	1.17	0.01	-0.28
- Diff. GC-SC	0.16		1.18		0.26		0.44		0.45	

Notes: Within each variable, the top row represents the mean actual score; the middle row presents the mean differences between treatment T*i* and treatment T0, with *i*=1,2,3; and bottom row presents the mean difference between General category (GC) and Scheduled Castes (SC) subjects. A *t*-test is used to test statistical significance for difference and standard errors are clustered at the village level. ** indicates significance at the 0.05 level.

Although no significant gap in performance appears when caste is announced, do high and low-caste groups form different beliefs about their ability in this context? Table 4 presents *relative* self-confidence, as measured by the proportion who think they will be winners in the tournament. The reported measures are treatment averages of all subjects, *i.e.* of those who chose tournament and those who did not. Comparing T0 and T1 in part 2 (so, without the AA intervention), we see that making the caste composition of the group common information significantly increases the relative confidence of the high-caste subjects and lowers that of the low-caste subjects ($p<0.05$). The caste gap in the proportion who think they will be winners increases by 19 percentage points from 2 to 21.

This is confirmed by the analysis of the reported chance of being a winner (see Tables A3 in Appendix 3 and Figure A2 in Appendix 5, with also $p<0.05$). This is also consistent with the analysis of absolute self-confidence: if both groups are over-confident, a significant caste gap appears between T0 and T1 in part 2. GC subjects increase their prediction on their absolute score and SC subjects lower theirs (see Table A4 in Appendix 3 and Figure A3 on prediction errors in Appendix 5). In part 3, these differences are no longer significant.

Since stereotype threat and boost could also affect the desire to compete with members of the other caste, we compare the proportion of GC and SC subjects who choose the tournament in part 3 in T0 and T1, when AA is not available. Figure 1 displays the proportion who choose the tournament in various parts. For part 3, the top left panel shows that the proportion of GC subjects who compete is higher in T1 when caste is common information (0.25) compared to T0 (0.20), whereas the opposite movement is observed for the SC subjects (0.15 and 0.19, respectively). However, the differences are not significant ($p>0.10$).

Table 4. Relative self-confidence (belief of being a winner), by treatment and caste

Treatment	T0		T1		T2		T2-Feedback		T3	
Caste	GC	SC	GC	SC	GC	SC	GC	SC	GC	SC
Part 2										
- Mean	0.34	0.32	0.48	0.27	0.41	0.46	0.36	0.51	0.36	0.46
- Diff. T*i*-T0			0.14	-0.05	0.07	0.14**	0.02	0.19**	0.02	0.14**
- Diff. GC-SC	0.02		0.21**		-0.05		-0.15*		-0.10	
Part 3										
- Mean	0.22	0.20	0.22	0.16	0.27	0.42	0.23	0.54	0.25	0.41
- Diff. T*i*-T0			0.00	-0.04	0.05	0.22**	0.01	0.34**	0.03	0.21**
- Diff. GC-SC	0.02		0.06		-0.15*		-0.31**		-0.16*	
Part 4††										
- Mean	0.30	0.25	0.29	0.20	0.38	0.47	0.29	0.53	0.27	0.45
- Diff. T*i*-T0			-0.01	-0.05	0.08	0.21**	-0.01	0.27**	-0.03	0.19**
- Diff. GC-SC	0.05		0.09		-0.09		-0.24		-0.18**	
Part 4B										
- Mean	0.30	0.25	0.29	0.20	0.42	0.31	0.39	0.28	0.40	0.26
- Diff. T*i*-T0			-0.01	-0.05	0.12*	0.05	0.09	-0.03	0.10	0.01
- Diff. GC-SC	0.05		0.09		0.11		0.11		0.14*	

Notes: ††: in treatments T2, T2F and T3, part 4 refers to part 4A. T0 and T1 do not have two different parts A and B for part 4. Hence, the same numbers are reported for part 4 and part 4B. Mean Prediction on rank is the proportion of subjects who think they will be winners in the tournament. The self-confidence measures reported in parts 3 and 4 represent treatment averages of all subjects, i.*e*. those who chose tournament and those who did not. Within each variable, the top row represents mean values; the middle row presents the mean differences between treatment T*i* and treatment T0, with *i*=1,2,3; and bottom row presents the mean difference between General category (GC) and Scheduled Castes (SC) subjects. A *t*-test is used to test statistical significance for difference, and standard errors are clustered at the village level. ** and * indicate significance at the 0.05 and 0.10 level, respectively.

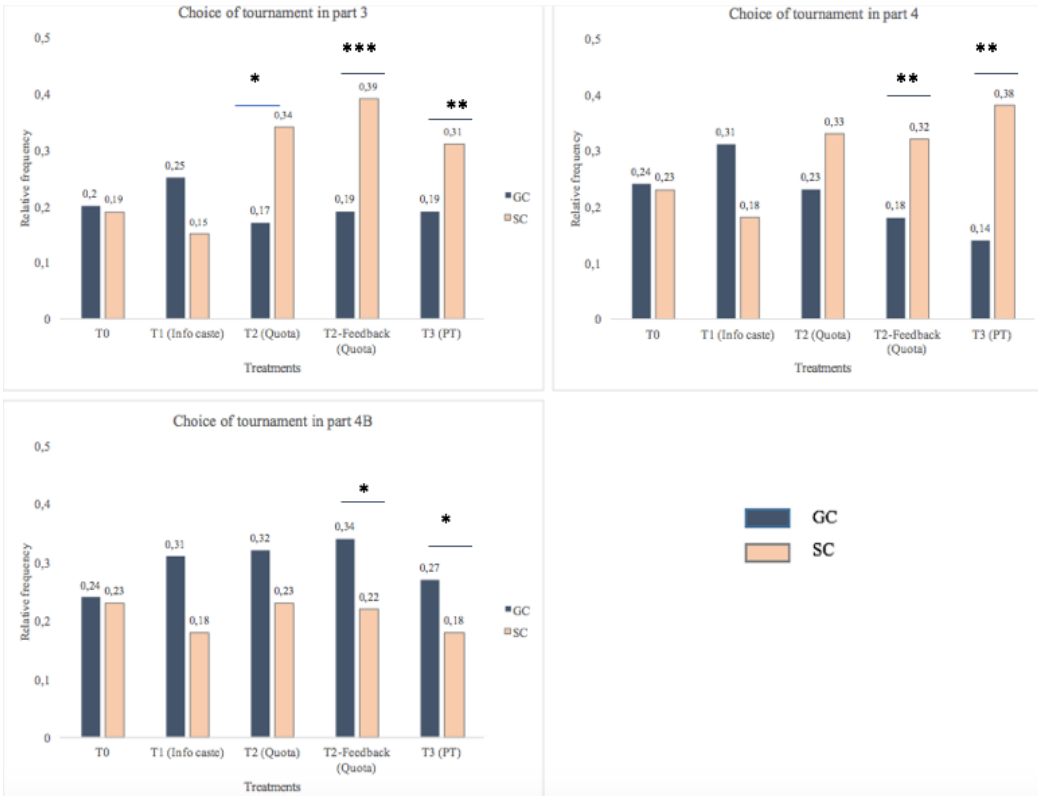


Figure 1. Proportion of subjects competing in the various parts, by caste and treatment
Note: ***, ** and * indicate significance at the 0.01, 0.05 and 0.10 level, respectively.

Turning next to the direct impact of AA, our second result can be stated as follows.

Result 2. Quotas boost the relative confidence of the SC subjects, motivating them to compete more than the GC subjects. This supports our second conjecture.

Support for Result 2. We first compare the mean memory scores in all parts when AA is introduced in T2 and T2-Feedback with scores in T0 in the absence of AA. Table 3 shows that quotas do not improve scores except in T2-Feedback in part 2 for the GC subjects and in part 3 for the SC subjects.

Regarding relative confidence, Table 4 shows that introducing quotas in T2 significantly increases the proportion of the SC subjects who think they will be winners in part 2 by 14 percentage points and in part 3 by 22 percentage points, compared to T0 (see also the third panel in Figure A3 in Appendix 3). The caste gap is not significant in part 2 but it is 15 percentage points in favor of SC subjects in part 3 (p<0.10) (regardless of the scheme chosen).

Similar results are obtained for the percent chance of winning presented in the appendix (see Table A3, panel A), where introducing AA raises the caste gap in favor of SC subjects by 4.5% in part 2 and by 5% in part 3, but the difference is not significant.[14] Table 4 also shows that T2-Feedback results are essentially the same as in T2 when quotas are introduced, as SC's relative self-confidence increases by 19 percentage points in part 2 and 34 percentage points in part 3 and the caste gap rises in favor of SC in both parts 2 and 3, by 15 and 31 percentage points respectively, although the increase is only weakly significant in part 2. The higher self-confidence of SC in part 3 compared to part 2 may be due to having to make an active choice (in part 2 competing was compulsory), which requires one to think further about one's relative ability. It may also be due to motivated beliefs (Benabou, 2015): subjects may manipulate their beliefs to increase their subjective chance of winning when they have to decide whether or not to compete. Another possible reason is that confidence requires time to develop.

As a result, Figure 1 shows that introducing quotas induces more SC individuals to enter the tournament in part 3 compared to T0 (the proportion is 0.34 instead of 0.19, p=0.06), while the proportion of GC subjects remains stable (0.17 *vs.* 0.20 in T0, p=0.76), indicating no discouragement. Therefore, the entry rate of the SC subjects now exceeds significantly that of GC subjects: the caste gap is 17 percentage points in T2 (p=0.08) in favor of the SC subjects. The p-values correspond to t-tests where standard errors are clustered at the village level. The above results hold for non-parametric rank-sum tests.

To better understand how the change in self-confidence induced by AA provision can in turn affect competitiveness, we conduct an econometric analysis of the tournament choice in

[14] Regarding absolute self-confidence, we also find that the difference in prediction errors (the difference between the belief on absolute performance and the actual score) between castes that was significant for part 2 in T1 is no longer significant when AA is introduced (see Table A4). Indeed, the prediction error is lower for the GC subjects in T2 than in T1, whereas it becomes higher for the SC subjects. Looking at part 3 prediction errors (see the third panel in Figure A2 in Appendix 5), we find that the absolute prediction error is not significantly different between GC and SC subjects (t-test clustered, p>0.10). AA eliminates the gap in absolute confidence by making the lower status subjects more optimistic (while making the caste salient in T1 without AA reduced their optimism). This may be due to the willingness to justify that they deserve being helped by the policy or to motivated beliefs.

part 3. Table 5 reports marginal effects in a two-step estimation procedure because beliefs on being a winner are endogenous to the tournament choice. Indeed, using a Durbin–Wu–Hausman test leads us to reject the null hypothesis that beliefs are exogenous (p<0.01). In the first step we endogenize beliefs and in the second step we explain tournament choice by the value of beliefs predicted in the first step. In the first step (bottom part of Table 5), we estimate a linear probability model with robust standard errors clustered at the village level. The dependent variable is the belief of being a winner in part 3 tournament. In model (1), the independent variables include belonging or not to the SC category, treatment dummies (with T0 as the reference category), interaction terms between belonging to SC and each treatment, and the subject's score in part 2 when tournament was compulsory.[15] Model (2) adds controls for socio-demographic characteristics (risk aversion, gender, age, education, and log household income).

Table 5. Determinants of tournament choice in part 3

	(1)	(2)
Step 2: Dependent variable: Tournament choice in part 3		
Predicted belief on being a winner	0.57***(0.11)	0.62*** (0.10)
Socio-demographic variables	*No*	*Yes*
Step 1: Dependent variable: Belief on being a winner in part 3		
Scheduled Castes subject (SC)	-0.02 (0.06)	-0.01 (0.07)
Treatment T1	0.02 (0.08)	0.04 (0.08)
Treatment T2	0.01 (0.06)	0.02 (0.06)
Treatment T2-Feedback	-0.01 (0.06)	-0.01 (0.06)
Treatment T3	0.02 (0.06)	0.04 (0.05)
SC*T1	-0.05 (0.08)	-0.07 (0.08)
SC*T2	0.22**(0.10)	0.21**(0.10)
SC*T2-Feedback	0.34***(0.11)	0.32***(0.11)
SC*T3	0.20**(0.09)	0.19**(0.09)
Score in part 2	0.03***(0.01)	0.03***(0.01)
Socio-demographic variables	*No*	*Yes*
Number of observations	840	836
Log pseudo-likelihood	-892.60	-870.7
Prob>chi2	<0.001	<0.001

Notes: Clustered standard errors at the village level are in parentheses. The two columns report marginal effects. In the first step estimation, the dependent variable in columns (1) and (2) is the belief that the subject will be among the winners in part 3. In the second step, a probit model estimates the probability to choose the tournament in part 3. ***, **, and * indicate significance at the 0.01, 0.05, and 0.1 level, respectively.

[15] Although subjects do not receive any feedback on their score in part 2, they can form a belief about their performance by counting their number of recalls.

Caste and treatments in themselves are not significantly related to beliefs. However, in both columns the AA treatment dummies interacted with caste are significant predictors of beliefs. Interestingly, effects sizes are approximately the same in either case. SC in AA treatments are about 20 percentage points more likely to believe that they will be winners and believe they have 8% greater chance of winning. The identifying assumption is that being SC and subject to AA treatments affect residual competition only indirectly via beliefs on being a winner/chance of winning and not directly. Therefore, in the second step (upper part of Table 5), the predicted values of beliefs in part 3 are entered as regressors in the binary tournament choice model that we estimate using a probit model, again with robust standard errors clustered at the village level.

Table 5 shows that the predicted value of beliefs is a strong and significant determinant of tournament choice in part 3. The quota policy increases the self-confidence of the SC subjects, which in turn increases the probability to enter competition. Believing oneself to be a winner increases by about 6 percentage point the probability of choosing the tournament. The results clearly show that it is AA policy interacted with SC subjects that drive beliefs, and beliefs in turn which increase tournament entry.

The spillover effects of AA on confidence and competitiveness

We summarize the spillover effects of AA on confidence and competitiveness as follows:

Result 3. The caste gap in confidence and competitiveness reverts as soon as the AA intervention is removed, showing no evidence of a spillover effect of AA on confidence and competitiveness, even when subjects receive feedback on past success or failure. This does not support our third conjecture.

Support for Result 3. Considering all the subjects regardless of their payment scheme choice, Table 4 shows that there is no spillover effects of the AA interventions on relative self-confidence, when comparing beliefs in part 4B to beliefs in parts 3 and 4A.[16] Remember that in part 4A, subjects are given the choice of submitting their part 1 performance to tournaments

[16] We cannot consider absolute self-confidence here. Indeed, since part 4 does not involve any new task and refers back simply to part 1 score, the absolute self-confidence measure would be the same as that in part 1.

with AA or to a piece rate; in part 4B, subjects again are given the choice of submitting their part 1 performance to tournament or piece rate, but now AA is removed. Table 4 shows that the caste gap in the proportion of subjects who believe they will be winners is about the same in part 4A and in part 3 when AA is available (in part 3, the proportion is 0.15 point higher for SC than GC in T2, significant at the 10% level (*t*-test, clustered); the respective value in part 4A is 0.09, not significant. For T2-Feedback the respective values are -0.31, significant at the 5% level (*t*-test, clustered), and -0.24, not significant). As soon as AA is removed, the caste gap in confidence reverts to the benefit of the GC subjects: in part 4B, the proportion is 0.11 point higher for GC than SC in T2 but the difference is not significant (p=0.13).[17] For T2-Feedback the respective value is 0.11, but one again, statistically insignificant. Removing AA policies lower perceptions about success to the part 4 level in T0, where caste is silent.

Regarding competitiveness, Figure 1 shows a substantial decrease in entry among the SC subjects and a substantial increase among the GC subjects in part 4B compared to parts 3 and 4A. In T2, the entry rate of SC subjects is 0.34 in part 3, 0.33 in part 4A, but goes down to 0.23 when quotas are removed (Wilcoxon signed rank test, W hereafter, p=0.05 when parts 3 and 4A are compared to part 4B); the respective values for the GC subjects are 0.17, 0.23 and 0.32 (W test, p=0.02 and 0.14 when part 3 and part 4A are compared to part 4B, respectively). [18] In T2-Feedback, the entry rate of SC subjects is 0.39 in part 3, 0.32 in part 4A, and goes down to 0.22 when quotas are removed (W tests, p=0.02 and 0.05 when part 3 and part 4A are compared to part 4B, respectively); the respective values for the GC subjects are 0.19, 0.18 and 0.34

[17] Note that the evolution of beliefs is qualitatively similar if considering instead the reported percent chance of being winners: while the SC subjects are significantly more confident in their chance of winning the tournament than the GC subjects in parts 3 and 4A when they benefit from AA, the caste gap is reverted in part 4B to the statistically insignificant non AA level.

[18] We conducted a similar two-step regression analysis as in Table 5 to explain the determinants of the tournament choice in part 4B when AA is removed. The results are reported in Table A5 in Appendix 3. They show that the predicted values of beliefs are still strong and significant predictors of tournament choice like in part 3, but in contrast to part 3, beliefs are no longer explained by the treatment, as the treatment variables are all non-significant.

(p=0.02 and 0.01, respectively). As a result, the caste gap that had previously opened in favor of the SC subjects under AA is closed or even reversed.

We also observe that in T2, the proportion of subjects who always choose to compete (in parts 3, 4A and 4B) is 10.1%, the proportion of those who choose to compete only under AA (in parts 3 and 4A) is 8.3%, and the proportion of those who never compete is 51.8%. Following a similar pattern, in T2-Feedback the respective percentages are 8.3%, 8.9%, and 49.4%.

3.2. The spillover effects of AA on lying and the bias against out-groups

We now explore whether introducing AA affects the willingness of individuals to avoid helping or even harm a subject from the other caste. Our last result can be summarized as follows:

Result 4. AA interventions do not generate the strong bias that the GC subjects hold against their out-groups from the protected caste. They do not modify the reporting behavior of the members of any caste, except for the individuals from the higher caste who learn that they lost the forced competition. Our fourth conjecture is not fully supported.

Support for Result 4. Tables 6A and 6B presents summary statistics on reporting behavior by treatment and caste, respectively for when payoffs are aligned and for when they are unaligned. They indicate the relative frequency of reports higher than 3, *i.e.* outcomes that pay more than the expected outcome (the expected mean outcome of truthful reporting is 3.5). P-values are reported from two-sided binomial tests comparing the observed frequencies and the theoretical frequency for a fair die (50%). Wilcoxon signed-rank tests are used to compare reporting behavior when the matched partner is from the same caste (in-group) and when he is from the other caste (out-group). Mann-Whitney rank-sum tests are used to compare reports across treatments, with T0 as the benchmark, to test whether the previous use of AA affects the bias towards in-groups and out-groups.[19] Each report is taken as an independent observation. These Tables also display, for each caste and treatment, the proportion of subjects who report a higher

[19] Note that taking T1 as the benchmark instead of T0 does not change our result that in T2-Feedback when the GC subjects who lost the tournament are matched with an out-group, they lie significantly less (at the 1% level) when interests are aligned and significantly more (at the 5% level) when they are unaligned. There is no significant difference with T1 when these subjects are matched with an in-group.

number for a same caste partner than for another caste partner when interests are aligned, and the proportion reporting a higher number for another caste partner when interest are unaligned. Binomial tests compare these values with the expected 50% if there was no caste bias. Finally, we report the mean estimated percent of subjects who misreport an outcome higher than 3 and its 95% confidence interval, using the econometric technique of Garbarino *et al.* (2016).[20]

Table 6A reveals widespread lying when payoffs are aligned, as in all treatments subjects report high payoff outcomes significantly more often than the expected 50%. In the absence of caste identity (T0), subjects lie less when payoffs are unaligned (see Table 6B) than when they are aligned, suggesting that a fraction of people who accept Pareto white lies are not willing to tell black lies (there is very little overlapping between the CI).

Strikingly, when caste identity is introduced Tables 6 show a very different pattern between GC and SC subjects. All categories tend to lie more (less) when it benefits (harms, respectively) an in-group rather than an out-group. But while the difference is never significant for the SC subjects, it is significant at the 1% level in most cases (no overlapping between the CI) for the GC subjects who express a strong bias against the SC subjects. Many GC subjects refrain from lying when misreporting also benefits a SC subject (in T1 the lying rate is 29.15% when matched with a SC subject and 66.63% when matched with an in-group). They prefer foregoing a gain to avoid helping someone from the other caste. When lying benefits themselves but also harms the partner, GC players have much less reluctance to lie when matched with a SC subject than with an in-group (in T1 the lying rate is 46.30% in the former case and 16.44% in the latter). SC subjects discriminate much less between castes and tell less black lies than Pareto-white lies (in T1, when interests are aligned the lying rate is 44.97% when matched with a GC subject and 59.95% when matched with an in-group; when interests are unaligned the respective

[20] This technique estimates the full distribution of the percentage of individuals who lie when they have an incentive to report dishonestly (here: reporting a number higher than 3 when getting a number lower than 4). By determining the PDF and CDF of dishonesty, it gives a precise estimate of the mean and the lower and upper bounds on the percent of subjects reporting dishonestly that can be inferred from the full distribution.

lying rates are 32.07% and 16.44%). Thus, the higher status category is more likely to discriminate against out-groups than the lower status category.

Does AA impact this behavior? In the absence of feedback on previous competition, quotas do not increase lying or the bias against out-groups. Considering the overlapping between the 95% confidence intervals, we do not find any significant difference between the estimated mean lying rates in T2 and T1, regardless of whether interests are or not aligned and of the caste (see Tables 6). Thus, despite the difference in behavior of the GC players towards out-groups, AA does not boost dishonesty and does not generate the bias against the members of the protected caste. This suggests that AA might be considered as acceptable by the GC subjects.

The pattern is however different when subjects receive information on whether they won or lost the forced tournament in part 2. Figure 2 illustrates the mean lying rates in the T2-Feedback treatment for the winners and losers separately, depending on whether the subject is matched with an in-group or an out-group. Panel A is for GC and panel B for SC when payoffs are aligned. Panels C and D are for the cases in which payoffs are unaligned. Spillover effects appear when individuals are informed about the outcome of the forced competition. In T2-Feedback, there are only two cases where the mean lying rate is significantly higher at the 1% level: when the GC subjects who lost the forced tournament are matched with an in-group and interests are aligned (74.95%, panel A), and when they are matched with an out-group and interests are unaligned (87.07%, panel C).

Table 6A. Summary statistics on lying in the die rolling task – Aligned payoffs

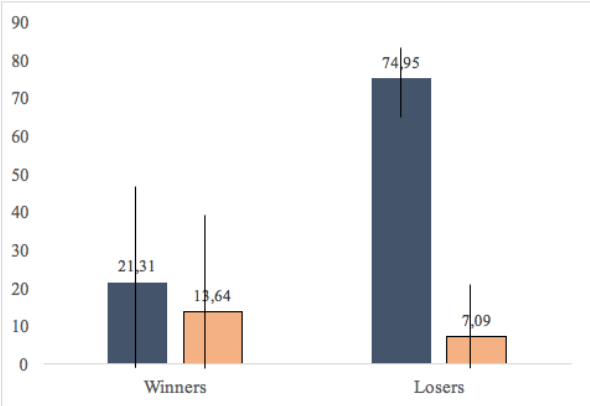
Treatments	T0		T1		T2		T2-Feedback Winners		T2-Feedback Losers		T3	
Caste	GC	SC	GC	SC	GC	SC	GC	SC	GC	SC	GC	SC
Percent of reports>3												
- Same caste partner	77.38***	77.38***	83.72***	80.49***	75.61***	88.37***	58.33	70.59	87.88***	68.18	84.21***	76.47***
- Other caste partner			65.12*	73.17***	53.66	81.40***	50.00	52.94	45.45	72.73**	57.89	73.53***
Number of observations	84	84	43	41	41	43	12	17	33	22	38	34
Comparison same/other caste (*p*-values)		-	0.032**	0.439	0.039**	0.317	0.655	0.317	0.001***	0.739	0.004***	0.763
Comparison T*i*-T0 (*p-values*)												
- Same caste partner	*Ref.*	*Ref.*	0.546	0.472	0.750	0.088*	0.162	0.803	0.294	0.637	0.521	0.791
- Other caste partner			0.265	0.402	0.032**	0.959	0.083*	0.030**	0.006***	0.453	0.083*	0.443
Proportion of subjects with higher report for same caste partner	-	-	55.81	51.22	56.10	46.51	66.67	52.94	63.16***	18.18***	63.16	41.18
Mean percent lying (CI)												
- Same caste partner	54.20 (43-63)	54.20 (43-63)	66.63 (55-75)	59.95 (46-71)	44.97 (25-60)	76.16 (68-82)	21.31 (0-49)	38.81 (0-61)	74.95 (65-82)	34.62 (0-56)	67.52 (55-76)	51.44 (32-65)
- Other caste partner			29.15 (8-47)	44.97 (25-60)	12.50 (0-31)	61.86 (48-72)	13.64 (0-41)	14.81 (0-61)	7.09 (0-24)	43.17 (0-63)	17.67 (0-38)	45.44 (24-61)

Table 6B. Summary statistics on lying in the die rolling task – Unaligned payoffs

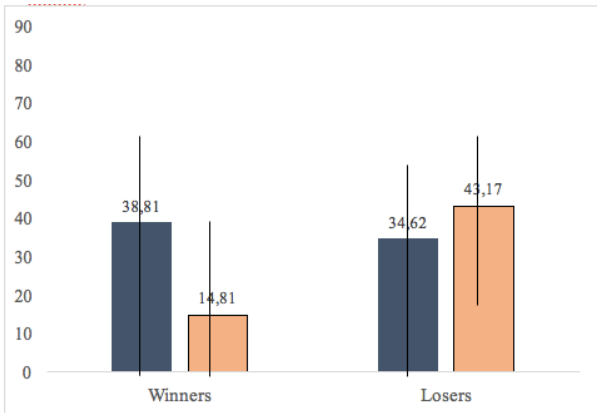
Treatments	T0		T1		T2		T2-Feedback Winners		T2-Feedback Losers		T3	
Caste	GC	SC	GC	SC	GC	SC	GC	SC	GC	SC	GC	SC
Number reports>3 (%)												
- Same caste partner	68.89***	66.67**	57.14	57.14	60.0	56.82	33.33	40.00	53.12	60.71	60.00	63.04
- Other caste partner			73.81***	66.67**	77.5***	59.09	41.67	73.33	93.75***	75.00**	80.00***	60.81
Number of observ.	90	78	42	42	40	44	12	15	32	28	50	46
Comparison same/other caste (*p*-values)		-	0.144	0.346	0.089*	0.818	0.655	0.705	0.001***	0.285	0.050**	0.818
Comparison T*i*-T0 (*p-values*)												
- Same caste partner	*Ref.*	*Ref.*	0.176	0.263	0.284	0.246	0.017**	0.051*	0.108	0.472	0.259	0.551
- Other caste partner			0.470	0.810	0.271	0.642	0.117	0.247	0.005***	0.347	0.143	0.761
Proportion of subjects with higher report for other caste partner	-	-	66.67**	50.00	55.00	40.91	41.67	46.67	75.00***	42.86	52.00	47.83
Mean percent lying (CI)												
- Same caste partner	37.07 (23-49)	32.48 (16-46)	16.44 (0-36)	16.44 (0-36)	20.55 (0-40)	15.91 (0-35)	5.19 (0-26)	7.03 (0-29)	12.78 (0-33)	22.24 (0-44)	20.21 (0-38)	25.39 (0-44)
- Other caste partner			46.30 (27-60)	32.07 (10-50)	53.79 (37-66)	19.03 (0-38)	8.53 (0-33)	10.54 (0-35)	87.07 (82-90)	48.12 (25-64)	59.15 (46-69)	21.71 (0-40)

Note: In T0, there is no information on partner's caste identity. Thus, we pool the data from the two die rolls. Regarding the number of reports higher than 3, ***, **, and * indicate significance at the 0.01, 0.05 and 0.1 levels, respectively, from binomial tests comparing each frequency with the expected value of 50%. The *p*-values for the comparisons same/other caste come from Wilcoxon signed-rank tests. Those for the comparisons T*i*-T0, with *i*=1,2,3, are from Mann-Whitney tests. For the mean percent lying statistics, the data in parentheses represent the confidence interval, *i.e.* the minimum and the maximum estimated percent of subjects lying

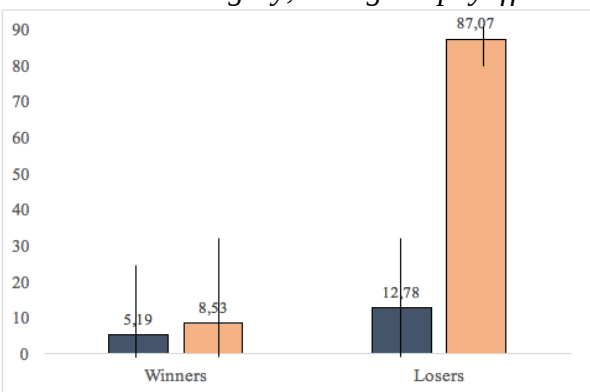
A.General Category, aligned payoffs



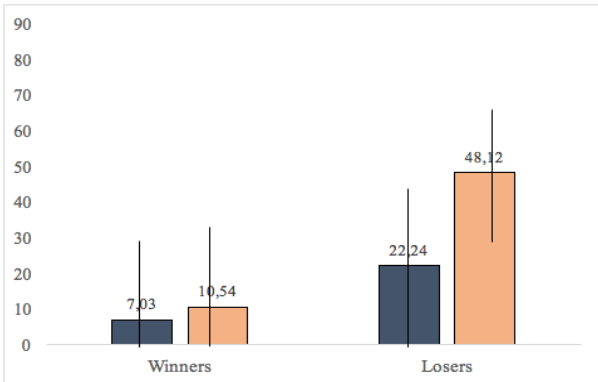
B. Scheduled Caste, aligned payoffs



C. General Category, unaligned payoffs



D. Scheduled Caste, unaligned payoffs



Matched subject from the same caste Matched subject from the other caste

Figure 2: Mean lying rates in the T2-Feedback treatment, by caste and condition

The willingness to compensate for the loss in the forced tournament does not provide a sufficient explanation since most GC subjects refrain from lying when they are matched with an out-group and interests are aligned, or when matched with an in-group and interests are unaligned. The explanation has to do with the willingness not to help a SC subject when interests are aligned and even harm him when unaligned. Overall, the GC losers discriminate against the SC subjects in the T2-Feedback treatment, and they do it significantly more (at the 1% level) than when AA is not available (see Tables 6A and 6B). No such effects are found for the SC subjects, although when interests are unaligned the losers also lie significantly more compared to the winners when matched with an out-group (see panel D).

These findings are also supported by a regression analysis in which the dependent variable is the reported outcome of the die roll. Table A6 in Appendix 3 reports the estimates of four ordered probit models. Models (1) and (2) are for the cases in which interests are aligned and subjects are matched with an in-group or an out-group, respectively; models (3) and (4) are for the cases in which interests are unaligned. The independent variables include dummies for each treatment (T1 being the reference category) and interaction terms between each treatment dummy and belonging to the GC caste. Robust standard errors are clustered at the village level. The regressions confirm that the behavior of the GC subjects differs mainly when they know that they have lost the tournament in T2-Feedback. In that case, these subjects report higher outcomes (by extension, they are more likely to lie) when matched with an in-group and interests are aligned and when matched with an out-group and interests are unaligned; they report lower outcomes when matched with an out-group and interests are aligned. These differences are significant at the 1% level. Therefore, the acceptability of AA by the higher status category is conditional on whether or not one suffers personally in this environment, in particular whether rank is reverted.[21]

4. Discussion and conclusion

We conducted an artefactual field experiment to examine the potential spillover effects of Affirmative Action policies (quotas and preferential treatment) in the context of castes in India. We first examined whether individuals who had previously benefitted from AA protection would have developed a sufficient taste for competition and confidence in their own abilities that led them to continue to compete even after the AA policies were removed. Second, we explored whether being exposed to AA policies affects individuals' ethical behavior and

[21] Xie *et al.* (2017) show that preserving hierarchy seems to be a social norm even for inequality averse people (see also Charness and Villeval, 2017). AA may modify this hierarchy. Those people from the non-protected category may feel frustration and anxiety about losing their rank, which may translate into resentment and anger against people from the other social category who have won the competition and got a higher rank.

whether behavior is conditioned on being matched with in-groups *vs*. out-groups when reporting affects not only one's payoff but also the payoff of another individual.

Our results show that the lower status associated with the Scheduled Caste gives rise to less self-confidence in one's own ability but not to less competitiveness. This suggests that a lower status in the society may affect self-confidence but not necessarily ambitions. AA has an immediate impact on the individuals' relative self-confidence. By increasing the optimism of the beneficiary category regarding its ability to win the tournament, it boosts quite substantially its willingness to compete. At the same time, AA policies do not discourage the unprotected group from competing. This result points to the importance of retaining AA policies for the purpose of fostering self-confidence and the desire to compete.

However, we find very limited spillover effects of AA interventions on further confidence and competitiveness. As soon as the policies are removed, the caste gap in confidence and competitiveness reverts. This reveals a very short-term effect of our interventions, even when subjects receive feedback on whether or not they were successful in a previous tournament. Thus, while it has been found that feedback on previous relative performance encourages females to become more competitive over time (Wozniak *et al*., 2014), this does not seem to apply to AA in our context. We also show that the spillovers of these policies on lying behavior and harm against the members from the protected caste are limited. Overall, the AA interventions do not increase lying and the strong bias of the members of the upper caste against the protected caste preexists to these interventions. However, when non-protected subjects learn that they lost a previous competition, even if they do not know if AA is responsible for it, they adapt their reporting behavior so as to harm their partner from the protected caste.

Our results regarding the absence of spillovers of AA interventions on competitiveness should be appreciated in view of the fact that our subjects were exposed to AA at most during three parts. A possible extension would be to increase the duration of the exposure to AA to

test whether spillovers are more likely to emerge when subjects have benefited from AA for a longer period of time.

We conducted our experiment in a specific country and the question is whether what we learn from this experiment may extend beyond the case of castes in India, although the control of the environment and the abstract setting help limit idiosyncrasies. Finding no spillover effects of AA on the later competitiveness of people who are already relatively competitive (the gap in competitiveness was not significant in the treatments without AA) shows that the latter react mainly to its instrumental value: they come back to their initial situation when the incentive is no longer available. For a category that is originally more reluctant to compete, like for example females as opposed to males, such interventions may also trigger an emotional dimension and eliminate the psychological barriers preventing them to compete. For this type of population, spillover effects of AA may have a greater chance to appear.

On a similar point, the strong bias of the higher caste members against out-groups from the protected caste revealed by lying behavior is consistent with previous studies showing the strong and durable segmentation of Indian society. But even in this highly-segmented society, the treatments without feedback show no evidence that AA generates higher spite against the out-groups benefiting from the intervention. It seems reasonable to believe that *a fortiori*, AA should generate also little retaliation in a less segmented society. It is the combination of AA and feedback on being a loser that generates more harmful behavior in the individuals who did not benefit from the intervention. The intensity of such negative reactions may depend on the degree of segmentation of the society. This could be tested in replicating the study in different countries and in dissociating the beneficiaries of an AA policy and the status of the group in the society. We leave this for further investigation.

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Appendix 1. Instructions for all treatments

Introductions (Common for all)

Welcome!

Thank you all for taking the time to come today. Today's session will take less than two hours. Before we begin, I want to make some general comments about what we are doing here today and explain the rules that you must follow.

You have each received an anonymous identification number. At some point, you will interact with other participants: you will never know their identity or their choices. Similarly, the other participants will never know your identity and your choices. All your choices and responses are anonymous.

The session consists of several tasks. At the end of the session, one of these tasks will be randomly selected to determine your earnings in this experiment. Therefore, each task may count for determining your earnings. The method we use to determine your earnings varies across tasks. Before each task we will describe in detail how your payment is determined.

Whatever money you earn in the session will be yours to keep and take home. In addition to the money you earn in the session, we will pay you **Rs. 100 for your participation today**. Your earnings will be paid to you in cash and in private at the end of the session.

At the end of the session, you will have to fill out a questionnaire with a list of simple questions. We are about to begin the first task. It is important that you listen as carefully as possible. We will distribute the instructions for the following task at the end of this first part.

If you have any question, please raise your hand and we will answer your questions in private. Please do not ask questions to the other participants or talk about the game with them at any point during today's session. This is very important. Please be sure that you obey this rule.

Instruction for Baseline Treatment (T0)

We will describe below the instructions for Task 1. We will distribute the instructions for the following task at the end of this task.

Task 1. Piece rate [Common for T0, T1, T2 and T3]

For Task 1, you will be asked to memorize and report numbers and then, we will ask you some questions.

We will dictate fifteen numbers between 1 and 100. Each number will be dictated twice. After the completion of the dictation, you will be asked to recall as many numbers as you can and then write them down on the response sheet provided to you within 3 minutes. You do not have to write the numbers down in the order in which they were dictated. Just write down as many numbers as you can recall.

Note that **you are not allowed to write anything while the dictation is going on; otherwise you will be excluded from the session**. **This is an individual task, so it is not permitted to discuss the numbers with any of the other participants**. **Doing so will also lead to exclusion from the session.** So you should listen carefully what the numbers are, memorize them and then reproduce as many of these numbers as you can on the response sheet. You cannot write more than 15 numbers (any number that would be reported after the 15th one would not be considered).

We will now play a practice round of this task with only 5 numbers. You will not earn anything from this practice round but please follow the instructions carefully.

--*Practice: please listen to the 5 numbers and report them on your reporting sheet*--

If Task 1 is the one randomly selected for payment, then you get Rs.10 per number you recall correctly in the 3 minutes. For example, if you recall correctly 2 numbers, you will earn 2 x 10 = Rs. 20; if you recall 10 numbers, you will earn 10 x 10 = Rs. 100. Your payment does not decrease if you report an incorrect number.

We refer to this payment as the **piece rate payment**.

If you have any question, please raise your hand and we will answer your question in private.

--Task 1 will start now. Please listen to the dictated numbers carefully and do not write anything before you are invited to do so. --

-- Now, please write down as many of the dictated numbers as you can recall in the next 3 minutes. --

-- Three minutes are over. Please stop writing immediately. --

Question 1.1

-- Please indicate on your reporting sheet in the box in front of "Question 1.1" how many numbers out of those you have reported you think you have correctly recalled. If this task is selected for payment, you will receive an additional Rs. 50 if your prediction matches your actual score. --

Task 2. Tournament

As in Task 1, after listening to a series of 15 dictated numbers, you will be given 3 minutes to write down as many recalled numbers as possible (in the limit of 15). However, for this task your payment depends on your performance relative to that of a group of other participants.

Each group consists of six people. Thus, you are in a group with five other people present in this session. You will not know who the five other people in your group are. The composition of your group of six remains the same until you are no longer in a group of six.

If Task 2 is the one randomly selected for payment, then your earnings depend on your number of correct recalls compared to that of the five other people in your group. The two group members who correctly recall the most numbers are the winners. They will receive Rs. 30 each per correct recall, while the four other group members receive no payment. So if you are among the two top performers, then you will earn Rs. 30 for each correct number that you recall in this task

You will not be informed of how you did in the tournament relative to others until all four tasks have been completed. If there are ties the winner will be randomly determined.

We refer to this as the **tournament payment**.

If you have any question, please raise your hand and we will answer your question in private.

--Task 2 will start now. Please listen to the dictated numbers carefully and do not write anything before you are invited to do so. --

-- Now, please write down as many of the dictated numbers as you can recall in the next 3 minutes. --

-- Three minutes are over. Please stop writing immediately. --

***Question 2.1**. Please indicate on your reporting sheet in the box in front of "Question 2.1" how many numbers out those you have reported you think you have correctly recalled. If this task is selected for payment, you will receive an additional Rs. 50 if your prediction matches your actual score.*

***Question 2.2**. Please indicate on your reporting sheet in the box in front of "Question 2.2" which rank, between 1 and 6 you think you have got in Task 2, compared to the five other group members. A rank of 1 means you think you got the highest number of correct recalls in the group and rank 6 means you think you got the lowest number of correct recalls in the group and similar for ranks between 1 and 6. If this task is selected for payment, you will receive an additional Rs.50 if your guess is correct. –*

***Question 2.3**. Please indicate on your reporting sheet in the box in front of "Question 2.3" what is the chance that you will be among the top two scorers in your group of six in this Task. Please indicate any number between 0 and 100, with 0 if you are absolutely sure you are not among the top two scorers in*

your group of six, 100 if you are absolutely sure that you are among the top two scorers, and some number in between 0 and 100 depending on how sure you are of being among the top two scorers. The higher this number, the more confident you are in being among the top two scorers. You will receive a maximum bonus of Rs.50 and a minimum bonus of 0 for answering this question. The more truthful you are in your report, the higher the bonus will be. In other words, your best interest is in truthfully reporting what you think your chances of being among the top two are. If you are interested in knowing how your bonus is calculated, ask us after the study is over.

Task 3. Choice

As in the previous two tasks, after listening to a series of 15 dictated numbers, you will be given 3 minutes to write down as many recalled numbers as possible. However, before that, you will get to choose which of the two previous payment modes you prefer to apply to your performance in Task 3. You can either choose to be paid according to the *piece rate*, or according to the *tournament*.

If Task 3 is randomly selected for payment, then your earnings for this task are determined as follows.

- If you choose the *piece rate* (*i.e.* the payment mode used in Task 1), you receive Rs. 10 per number correctly recalled.
- If you choose the *tournament* (*i.e.* the payment mode used in Task 2), your performance in Task 3 will be evaluated relative to the performance of the other five participants of your group in the Task 2 -Tournament. The Task 2-tournament is the one you just completed. If you correctly recall more numbers than four of your other group members in Task 2, then you receive Rs. 30 for each correctly recalled number. You will receive no earnings for this task if you choose the tournament and are not among the two winners. You will not be informed of how you did in the tournament until the end of the session. If there are ties the winner will be randomly determined.

If you have any question, please raise your hand and we will answer your question in private.

--*Task 3 will start now.*

Question 3.1. Please indicate on your reporting sheet which payment scheme you prefer to apply to your performance in Task 3. Strike through the option which you would not like to select and circle the option which you would like to select:

Example 1: If you want to be paid according to Piece rate and not according to Tournament, you should enter:

Piece rate

~~*Tournament*~~

Example 2: If you want to be according to Tournament and not according to Piece rate you should enter:

~~*Piece rate*~~

Tournament

Please select your payment option here:

1. *Piece rate*
2. *Tournament*

Now, please listen to the dictated numbers carefully and do not write anything before you are invited to do so. --

-- *Now, please write down as many of the dictated numbers as you can recall in the next 3 minutes.* --

-- *Three minutes are over. Please stop writing immediately.* --

Question 3.2. *Please indicate on your reporting sheet in the box in front of "Question 3.2" how many numbers out of those you have reported you think you have correctly recalled. If this task is selected for payment, you will receive an additional Rs. 50 if your prediction matches your actual score.*

Question 3.3. *Please indicate on your reporting sheet in the box in front of "Question 3.3" which rank, between 1 for the highest number of correct recalls to 6 for the lowest number of correct recalls, you think you have got in Task 3, compared to the five other group members in Task 2. If this task is selected for payment, you will receive an additional Rs.50 if your guess is correct. We ask you to answer this question <u>even if</u> you have chosen the piece rate payment mode. –*

Question 3.4. *Please indicate on your reporting sheet in the box in front of "Question 3.4" what is the chance that you will be among the top two scorers <u>in your group of six</u> in this Task. Please indicate any number between 0 and 100, with 0 if you are absolutely sure you are not among the top two scorers <u>in your group of six</u>, 100 if you are absolutely sure that you are among the top two scorers, and some number in between 0 and 100 depending on how sure you are of being among the top two scorers. The higher this number, the more confident you are in being among the top two scorers. You will receive a maximum bonus of Rs.50 and a minimum bonus of 0 for answering this question. The more truthful you are in your report, the higher the bonus will be. In other words, your best interest is in truthfully reporting what you think your chances of being among the top two are. If you are interested in knowing how your bonus is calculated, ask us after the study is over. We ask you to answer this question <u>even if</u> you have chosen the piece rate payment mode. --*

Task 4. Choice 2

In contrast to the previous tasks, you will not have to recall numbers for this Task. Instead you will be paid one more time for the numbers you recalled in **Task 1-Piece rate**. However, you will have to choose which payment mode you prefer to apply to your performance in **Task 1** (when you were paid Rs. 10 per number correctly recalled). You can either choose to be paid according to the *piece rate* or according to the *tournament*.

If Task 4 is randomly selected for payment, then your earnings for this task are determined as follows.

- If you choose the *piece rate*, you receive Rs. 10 per number correctly recalled in **Task 1**.
- If you choose the *tournament*, your performance in **Task 1** will be evaluated relative to the performance of the other five participants of your group in the Task 1. If you correctly recalled in Task 1 more numbers than four of your other group members in Task 1, then you receive Rs. 30 for each number that you correctly recalled. You will receive no earnings for this task if you choose the tournament and are not among the two winners. You will not be informed of how you did in the tournament until the end of the session. If there are ties the winner will be randomly determined.

If you have any question, please raise your hand and we will answer your question in private.

--Task 4 will start now.

Question 4.1. *Please indicate on your reporting sheet which* payment scheme you prefer to apply to your performance in **Task 1** and strike through the option which you would not like to select and circle the option which you would like to select.

1. *Piece rate*
2. *Tournament*

Question 4.2. *Please indicate on your reporting sheet in the box in front of "Question 4.2" which rank, between 1 for the highest number of correct recalls to 6 for the lowest number of correct recalls, you think you have got in Task 1, compared to the five other group members in Task 1. If this task is selected for payment, you will receive an additional Rs.50 if your guess is correct. We ask you to answer this question <u>even if</u> you have chosen the piece rate payment mode. --*

Question 4.3. *Please indicate on your reporting sheet in the box in front of "Question 4.3" what is the chance that you will be among the top two scorers in your group of six in this Task. Please indicate any number between 0 and 100, with 0 if you are absolutely sure you are not among the top two scorers in your group of six and 100 if you are absolutely sure that you are among the top two scorers and some number in between 0 and 100 depending on how sure you are of being among the top two scorers. You will receive a maximum bonus of Rs.50 and a minimum bonus of 0 for answering this question. The more truthful you are in your report, the higher the bonus will be. In other words, your best interest is in truthfully reporting what you think your chances of being among the top two are. If you are interested in knowing how your bonus is calculated, ask us after the study is over. We ask you to answer this question even if you have chosen the piece rate payment mode. --*

Task 5-A Die (Unaligned condition)

You are no longer in a group of six participants. In this Task you are paired successively with two other participants of your group of six.

You have received two cups. Each cup contains a die. Do not open the cups but look under the lid. In one cup, the die is blue. In the other cup, the die is red.

- The cup with the **blue die** must be used to determine your payoff and the payoff of another participant
- The cup with the **red die** must be used to determine your payoff and the payoff of another participant

What happens in the first pair?

Both you and your co-participant will have to roll a die that is inside one of the cups. But only the outcome reported by one of you two will count to determine your payoffs in this Task. A random draw at the end of the session will determine whether it is the outcome that *you* report or the outcome reported by *the other participant* that will determine your payoffs.

You will roll the die twice by shaking the cup and flipping it over. You have to report the outcome of the **first** roll only. To see the outcome, just look under the lid.

Your **first** roll decides on how much you and the other participant earn in this part (if it is your report that is selected at the end of the session). The second roll only serves to make sure that the die is working properly. You may of course roll the die more than twice. However, **only the first roll counts**.

You can see the payoffs from the following chart.

Outcome of the 1st roll	1	2	3	4	5	6
Payoff of the participant rolling	Rs. 10	Rs. 20	Rs. 30	Rs. 40	Rs. 50	Rs. 60
Payoff of the other participant	Rs. 60	Rs. 50	Rs. 40	Rs. 30	Rs. 20	Rs. 10

For example, if 1 is the reported outcome from the die roll, the participant who rolls the die earns Rs.10 and the other participant earns Rs.60. If 2 is the reported outcome from the die roll, the participant who rolls the die earns Rs.20 and the other participant earns Rs.50. And so on.

What happens in the second pair?

The rules are exactly the same as for the first pair, except that you are paired with a different participant. When the experimenter will instruct you to start, you can start either by rolling the blue die or by rolling the red die.
Please wait for the experimenter to instruct you to roll the dice. If you have any question, please raise your hand.

Question 5.1. Please report *on your reporting sheet in front of question 51 the outcome of the first two die rolls:*
Blue die: the outcome of the first blue die roll is: 1 2 3 4 5 6
Red die: the outcome of the first red die roll is: 1 2 3 4 5 6

Task 5-B Die (Aligned condition)

You are no longer in a group of six participants. In this Task you are paired successively with two other participants of your group of six.

You have received two cups. Each cup contains a die. Do not open the cups but look under the lid. In one cup, the die is blue. In the other cup, the die is red.

- The cup with the **blue die** must be used to determine your payoff and the payoff of another participant
- The cup with the **red die** must be used to determine your payoff and the payoff of another participant

What happens in the first pair?

Both you and your co-participant will have to roll a die that is inside one of the cups. But only the outcome reported by one of you two will count to determine your payoffs in this Task. A random draw at the end of the session will determine whether it is the outcome that *you* report or the outcome reported by *the other participant* that will determine your payoffs.

You will roll the die twice by shaking_the cup and flipping it over. You have to report the outcome of the **first** roll only. To see the outcome, just look under the lid.

Your **first** roll decides on how much you and the other participant earn in this part (if it is your report that is selected at the end of the session). The second roll only serves to make sure that the die is working properly. You may of course roll the die more than twice. However, **only the first roll counts**.
You can see the payoffs from the following chart.

Outcome of the 1st roll	1	2	3	4	5	6
Payoff of the participant rolling	Rs. 10	Rs. 20	Rs. 30	Rs. 40	Rs. 50	Rs. 60
Payoff of the other participant	Rs. 10	Rs. 20	Rs. 30	Rs. 40	Rs. 50	Rs. 60

For example, if 1 is the reported outcome from the die roll, the participant who rolls the die earns Rs.10 and the other participant (whose the reported outcome does not count) earns Rs. 10. If 2 is the reported outcome from the die roll, the participant who rolls the die earns Rs.20 and the other participant earns Rs. 20. And so on.)

What happens in the second pair?

The rules are exactly the same as for the first pair, except that you are paired with a different participant.
When the experimenter will instruct you to start, you can start either by rolling the blue die or by rolling the red die.
Please wait for the experimenter to instruct you to roll the dice. If you have any question, please raise your hand.

Question 5.1. Please report *on your reporting sheet in front of question 5.1 the outcome of the first two die rolls:*
Blue die (pair with a participant from the same caste): the outcome of the first blue die roll is:
1 2 3 4 5 6
Red die (pair with a participant from the other caste): the outcome of the first red die roll is:
1 2 3 4 5 6

Instructions for Treatment 1 (T1)

Task 1. Piece rate [Common for T0, T1, T2 and T3]

Task 2. Tournament

As in Task 1, after listening to a series of 15 dictated numbers, you will be given 3 minutes to write down as many recalled numbers as possible (in the limit of 15). However, for this task your payment depends on your performance relative to that of a group of other participants.

Each group consists of six people, out of which three are from the General Category and three are from the Scheduled Caste category. Thus, you are in a group with five other people present in this session. You will not know who the five other people in your group are. The composition of your group of six remains the same until you are no longer in a group of six.

If Task 2 is the one randomly selected for payment, then your earnings depend on your number of correct recalls compared to that of the five other people in your group. The two group members who correctly recall the most numbers are the winners. They will receive Rs. 30 each per correct recall, while the four other group members receive no payment. So, if you are among the two top performers, then you will earn Rs. 30 for each correct number that you recall in this task

You will not be informed of how you did in the tournament relative to others until all four tasks have been completed. If there are ties the winner will be randomly determined.

We refer to this as the **tournament payment**.

If you have any question, please raise your hand and we will answer your question in private.

--Task 2 will start now. Please listen to the dictated numbers carefully and do not write anything before you are invited to do so. --

-- Now, please write down as many of the dictated numbers as you can recall in the next 3 minutes. --

-- Three minutes are over. Please stop writing immediately. --

*-- **Question 2.1**. Please indicate on your reporting sheet in the box in front of "Question 2.1" how many numbers out of those you have reported you think you have correctly recalled. If this task is selected for payment, you will receive an additional Rs. 50 if your prediction matches your actual score.*

***Question 2.2a**. Please indicate on your reporting sheet in the box in front of "Question 2.2a" which rank, between 1 and 6 you think you have got in Task 2, compared to the five other group members. A rank of 1 means you think you got the highest number of correct recalls in the group and rank 6 means you think you got the lowest number of correct recalls in the group and similar for ranks between 1 and 6. If this task is selected for payment, you will receive an additional Rs.50 if your guess is correct. –*

***Question 2.2b**. Please indicate on your reporting sheet in the box in front of "Question 2.2b" which rank, between 1 and 3 you think you have got in Task 2, compared to the three other group members of your own caste. A rank of 1 means you think you got the highest number of correct recalls within your own caste in your group and rank 3 means you think you got the lowest number of correct recalls within your caste in the group and similar for ranks between 1 and 3. If this task is selected for payment, you will receive an additional Rs.50 if your guess is correct. –*

***Question 2.3**. Please indicate on your reporting sheet in the box in front of "Question 2.3" what is the chance that you will be among the top two scorers <u>in your group of six</u> in this Task. Please indicate any number between 0 and 100, with 0 if you are absolutely sure you are not among the top two scorers <u>in your group of six</u>, 100 if you are absolutely sure that you are among the top two scorers, and some number in between 0 and 100 depending on how sure you are of being among the top two scorers. The higher this number, the more confident you are in being among the top two scorers. You will receive a*

maximum bonus of Rs.50 and a minimum bonus of 0 for answering this question. The more truthful you are in your report, the higher the bonus will be. In other words, your best interest is in truthfully reporting what you think your chances of being among the top two are. If you are interested in knowing how your bonus is calculated, ask us after the study is over.

Task 3. Choice

As in the previous two tasks, after listening to a series of 15 dictated numbers, you will be given 3 minutes to write down as many recalled numbers as possible. However, before that, you will get to choose which of the two previous payment modes you prefer to apply to your performance in Task 3. You can either choose to be paid according to the *piece rate*, or according to the *tournament*.

If Task 3 is randomly selected for payment, then your earnings for this task are determined as follows.

- If you choose the *piece rate* (*i.e.* the payment mode used in Task 1), you receive Rs. 10 per number correctly recalled.
- If you choose the *tournament* (*i.e.* the payment mode used in Task 2), your performance in Task 3 will be evaluated relative to the performance of the other five participants of your group in the Task 2 -Tournament. Remember, out of the six people in each group, three are from General Category and three are from Scheduled Caste category. The Task 2-tournament is the one you just completed. If you correctly recall more numbers than four of your other group members in Task 2, then you receive Rs. 30 for each correctly recalled number. You will receive no earnings for this task if you choose the tournament and are not among the two winners. You will not be informed of how you did in the tournament until the end of the session. If there are ties the winner will be randomly determined.

If you have any question, please raise your hand and we will answer your question in private.

--*Task 3 will start now.*

Question 3.1. Please indicate on your reporting sheet which payment scheme you prefer to apply to your performance in Task 3. Strike through the option which you would not like to select and circle the option which you would like to select:

Example 1: If you want to be paid according to Piece rate and not according to Tournament, you should enter:

Piece rate

~~*Tournament*~~

Example 2: If you want to be according to Tournament and not according to Piece rate you should enter:

~~*Piece rate*~~

Tournament

Please select your payment option here:

1. *Piece rate*
2. *Tournament*

Now, please listen to the dictated numbers carefully and do not write anything before you are invited to do so. --

-- *Now, please write down as many of the dictated numbers as you can recall in the next 3 minutes.* --

-- *Three minutes are over. Please stop writing immediately.* --

--***Question 3.2***. *Please indicate on your reporting sheet in the box in front of "Question 3.2" how many numbers out of those you have reported you think you have correctly recalled. If this task is selected for payment, you will receive an additional Rs. 50 if your prediction matches your actual score.*

Question 3.3a. *Please indicate on your reporting sheet in the box in front of "Question 3.3a" which rank, between 1 for the highest number of correct recalls to 6 for the lowest number of correct recalls, you think you have got in Task 3, compared to the five other group members in Task 2. If this task is selected for payment, you will receive an additional Rs.50 if your guess is correct. We ask you to answer this question even if you have chosen the piece rate payment mode.*

Question 3.3b. *Please indicate on your reporting sheet in the box in front of "Question 3.3b" which rank, between 1 and 3 you think you have got in Task 2, compared to the three other group members of your own caste. A rank of 1 means you think you got the highest number of correct recalls within your own caste in your group and rank 3 means you think you got the lowest number of correct recalls within your caste in the group and similar for ranks between 1 and 3. If this task is selected for payment, you will receive an additional Rs.50 if your guess is correct. – –*

Question 3.4. *Please indicate on your reporting sheet in the box in front of "Question 3.4" what is the chance that you will be among the top two scorers in your group of six in this Task. Please indicate any number between 0 and 100, with 0 if you are absolutely sure you are not among the top two scorers in your group of six, 100 if you are absolutely sure that you are among the top two scorers, and some number in between 0 and 100 depending on how sure you are of being among the top two scorers. The higher this number, the more confident you are in being among the top two scorers. You will receive a maximum bonus of Rs.50 and a minimum bonus of 0 for answering this question. The more truthful you are in your report, the higher the bonus will be. In other words, your best interest is in truthfully reporting what you think your chances of being among the top two are. If you are interested in knowing how your bonus is calculated, ask us after the study is over. We ask you to answer this question even if you have chosen the piece rate payment mode. --*

Task 4 - Choice 2

In contrast to the previous tasks, you will not have to recall numbers for this Task. Instead you will be paid one more time for the numbers you recalled in **Task 1-Piece rate**. However, you will have to choose which payment mode you prefer to apply to your performance in **Task 1** (when you were paid Rs. 10 per number correctly recalled). You can either choose to be paid according to the *piece rate* or according to the *tournament*.

If Task 4 is randomly selected for payment, then your earnings for this task are determined as follows.

- If you choose the *piece rate*, you receive Rs. 10 per number correctly recalled in **Task 1**.
- If you choose the *tournament*, your performance in **Task 1** will be evaluated relative to the performance of the other five participants of your group in the Task 1. Remember, out of the six people in each group, three are from General Category and three are from Scheduled Caste category. If you correctly recalled in Task 1 more numbers than four of your other group members in Task 1, then you receive Rs. 30 for each number that you correctly recalled. You will receive no earnings for this task if you choose the tournament and are not among the two winners. You will not be informed of how you did in the tournament until the end of the session. If there are ties the winner will be randomly determined.

If you have any question, please raise your hand and we will answer your question in private.

--*Task 4 will start now.*

Question 4.1. *Please indicate on your reporting sheet which* payment scheme you prefer to apply to your performance in **Task 1** and strike through the option which you would not like to select and circle the option which you would like to select.

1. *Piece rate*

2. *Tournament*

Question 4.2a. *Please indicate on your reporting sheet in the box in front of "Question 4.2" which rank, between 1 for the highest number of correct recalls to 6 for the lowest number of correct recalls, you think you have got in Task 1, compared to the five other group members in Task 1. If this task is selected for payment, you will receive an additional Rs.50 if your guess is correct. We ask you to answer this question <u>even if</u> you have chosen the piece rate payment mode. –*

Question 4.2b. *Please indicate on your reporting sheet in the box in front of "Question 4.2b" which rank, between 1 and 3 you think you have got in Task 2, compared to the three other group members of your own caste. A rank of 1 means you think you got the highest number of correct recalls within your own caste in your group and rank 3 means you think you got the lowest number of correct recalls within your caste in the group and similar for ranks between 1 and 3. If this task is selected for payment, you will receive an additional Rs.50 if your guess is correct.*

Question 4.3. *Please indicate on your reporting sheet in the box in front of "Question 4.3" what is the chance that you will be among the top two scorers <u>in your group of six</u> in this Task. Please indicate any number between 0 and 100, with 0 if you are absolutely sure you are not among the top two scorers <u>in your group of six</u> and 100 if you are absolutely sure that you are among the top two scorers and some number in between 0 and 100 depending on how sure you are of being among the top two scorers.. We ask you to answer this question <u>even if</u> you have chosen the piece rate payment mode. You will receive a maximum bonus of Rs.50 and a minimum bonus of 0 for answering this question. The more truthful you are in your report, the higher the bonus will be. In other words, your best interest is in truthfully reporting what you think your chances of being among the top two are. If you are interested in knowing how your bonus is calculated, ask us after the study is over. We ask you to answer this question <u>even if</u> you have chosen the piece rate payment mode. --*

Task 5-A – Die (Unaligned condition) [Common for T1, T2 and T3]

You are no longer in a group of six participants. In this Task you are paired successively with two other participants of your group of six. In one case, you are paired with someone from the same caste as you and in the other case you are paired with someone from the other caste.

You have received two cups. Each cup contains a die. Do not open the cups but look under the lid. In one cup, the die is blue. In the other cup, the die is red.

- The cup with the **blue die** must be used to determine your payoff and the payoff of another participant from **your own caste.**
- The cup with the **red die** must be used to determine your payoff and the payoff of another participant from **the other caste.**

What happens in the first pair?

Both you and your co-participant will have to roll a die that is inside one of the cups. But only the outcome reported by one of you two will count to determine your payoffs in this Task. A random draw at the end of the session will determine whether it is the outcome that *you* report or the outcome reported by *the other participant* that will determine your payoffs.

You will roll the die twice by shaking the cup and flipping it over. You have to report the outcome of the **first** roll only. To see the outcome, just look under the lid.

Your **first** roll decides on how much you and the other participant earn in this part (if it is your report that is selected at the end of the session). The second roll only serves to make sure that the die is working properly. You may of course roll the die more than twice. However, **only the first roll counts**.

You can see the payoffs from the following chart.

Outcome of the 1st roll	1	2	3	4	5	6
Payoff of the participant rolling	Rs. 10	Rs. 20	Rs. 30	Rs. 40	Rs. 50	Rs. 60
Payoff of the other participant	Rs. 60	Rs. 50	Rs. 40	Rs. 30	Rs. 20	Rs. 10

For example, if 1 is the reported outcome from the die roll, the participant who rolls the die earns Rs.10 and the other participant earns Rs. 60. If 2 is the reported outcome from the die roll, the participant who rolls the die earns Rs.20 and the other participant earns Rs. 50. And so on.

What happens in the second pair?

The rules are exactly the same as for the first pair, except that you are paired with a different participant.

When the experimenter will instruct you to start, you can start either by rolling the blue die or by rolling the red die.

Please wait for the experimenter to instruct you to roll the dice. If you have any question, please raise your hand.

Question 5.1. Please report *on your reporting sheet in front of question 51 the outcome of the first two die rolls:*

Blue die (pair with a participant from the same caste): the outcome of the first blue die roll is:
1 2 3 4 5 6

Red die (pair with a participant from the other caste): the outcome of the first red die roll is:
1 2 3 4 5 6

Task 5-B Die (Aligned condition) [Common for T1, T2 and T3]

You are no longer in a group of six participants. In this Task you are paired successively with two other participants of your group of six. In one case, you are paired with someone from the same caste as you and in the other case you are paired with someone from the other caste***)***.

You have received two cups. Each cup contains a die. Do not open the cups but look under the lid. In one cup, the die is blue. In the other cup, the die is red.

- The cup with the **blue die** must be used to determine your payoff and the payoff of another participant from **your own caste.**
- The cup with the **red die** must be used to determine your payoff and the payoff of another participant from **the other caste.**

What happens in the first pair?

Both you and your co-participant will have to roll a die that is inside one of the cups. But only the outcome reported by one of you two will count to determine your payoffs in this Task. A random draw at the end of the session will determine whether it is the outcome that *you* report or the outcome reported by *the other participant* that will determine your payoffs.

You will roll the die twice by shaking_the cup and flipping it over. You have to report the outcome of the **first** roll only. To see the outcome, just look under the lid.

Your **first** roll decides on how much you and the other participant earn in this part (if it is your report that is selected at the end of the session). The second roll only serves to make sure that the die is working properly. You may of course roll the die more than twice. However, **only the first roll counts**.

You can see the payoffs from the following chart.

Outcome of the 1st roll	1	2	3	4	5	6
Payoff of the participant rolling	Rs. 10	Rs. 20	Rs. 30	Rs. 40	Rs. 50	Rs. 60
Payoff of the other participant	Rs. 10	Rs. 20	Rs. 30	Rs. 40	Rs. 50	Rs. 60

For example, if 1 is the reported outcome from the die roll, the participant who rolls the die earns Rs.10 and the other participant (whose the reported outcome does not count) earns Rs. 10. If 2 is the reported outcome from the die roll, the participant who rolls the die earns Rs.20 and the other participant earns Rs. 20. And so on.)

What happens in the second pair?

The rules are exactly the same as for the first pair, except that you are paired with a different participant.

When the experimenter will instruct you to start, you can start either by rolling the blue die or by rolling the red die.

Please wait for the experimenter to instruct you to roll the dice. If you have any question, please raise your hand.

Question 5.1. Please report *on your reporting sheet in front of question 5.1 the outcome of the first two die rolls:*

Blue die (pair with a participant from the same caste): the outcome of the first blue die roll is:
1 2 3 4 5 6
Red die (pair with a participant from the other caste): the outcome of the first red die roll is:
1 2 3 4 5 6

Instructions for Treatment 2 (T2)

Task 1. Piece rate [Common for T0, T1, T2 and T3]

Task 2. Quota-Tournament

As in Task 1, after listening to a series of 15 dictated numbers, you will be given 3 minutes to write down as many recalled numbers as possible (in the limit of 15). However, for this task your payment depends on your performance relative to that of a group of other participants through a method called ***Quota-Tournament.***

Before proceeding, we explain the rules of ***Quota-Tournament.***

Each group consists of six people, out of which three are from the General Category and three are form the Scheduled Caste category. Thus, you are in a group with five other people present in this session. You will not know who the five other people in your group are. The composition of your group of six remains the same until you are no longer in a group of six. In Quota-Tournament the winners are determined as follows:

- *If you belong to the Scheduled Caste category*: you are a winner and receive Rs. 30 for each correctly recalled number if you have a better Task 2 - performance than (i) the other two participants from the Scheduled Caste category in your group in Task 2, **or** (ii) at least four members of your group in Task 2. If you are not a winner, then you do not earn anything.
- *If you belong to the General category*: you receive Rs. 30 for each correctly recalled number if you have a better Task 2 - performance than (i) the other two participants from the General category in your group in Task 2, **and** (ii) four members of your group in Task 2. If you are not a winner, then you do not earn anything.

You will not be informed of how you did in the tournament until the end of the session. If there are ties, the winner will be randomly determined.

--Task 2 will start now. Please listen to the dictated numbers carefully and do not write anything before you are invited to do so. --

-- Now, please write down as many of the dictated numbers as you can recall in the next 3 minutes. --

-- Three minutes are over. Please stop writing immediately. --

*-- **Question 2.1**. Please indicate on your reporting sheet in the box in front of "Question 2.1" how many numbers out of those you have reported you think you have correctly recalled. If this task is selected for payment, you will receive an additional Rs. 50 if your prediction matches your actual score.*

***Question 2.2a**. Please indicate on your reporting sheet in the box in front of "Question 2.2a" which rank, between 1 and 6 you think you have got in Task 2, compared to the five other group members. A rank of 1 means you think you got the highest number of correct recalls in the group and rank 6 means you think you got the lowest number of correct recalls in the group and similar for ranks between 1 and 6. If this task is selected for payment, you will receive an additional Rs.50 if your guess is correct. –*

***Question 2.2b.** Please indicate on your reporting sheet in the box in front of "Question 2.2b" which rank, between 1 and 3 you think you have got in Task 2, compared to the three other group members of your own caste. A rank of 1 means you think you got the highest number of correct recalls within your own caste in your group and rank 3 means you think you got the lowest number of correct recalls within your caste in the group and similar for ranks between 1 and 3. If this task is selected for payment, you will receive an additional Rs.50 if your guess is correct.*

***Question 2.3**. Please indicate on your reporting sheet in the box in front of "Question 2.3" what is the*

chance that you will be among the "winners" in your group of six in this Task. Please indicate any number between 0 and 100, with 0 if you are absolutely sure you are not among the winners in your group of six, 100 if you are absolutely sure that you are among the winners, and some number in between 0 and 100 depending on how sure you are of being among the winners. The higher this number, the more confident you are in being among the winners. You will receive a maximum bonus of Rs.50 and a minimum bonus of 0 for answering this question. The more truthful you are in your report, the higher the bonus will be. In other words, your best interest is in truthfully reporting what you think your chances of being among the winners are. If you are interested in knowing how your bonus is calculated, ask us after the study is over.

Task 3. Choice

As in the previous two tasks, after listening to a series of 15 dictated numbers, you will be given 3 minutes to write down as many recalled numbers as possible. However, before that, you will get to choose which of the two previous payment modes you prefer to apply to your performance in Task 3. You can either choose to be paid according to the *piece rate*, or according to the *tournament*.

If Task 3 is randomly selected for payment, then your earnings for this task are determined as follows.

- If you choose the *piece rate* (*i.e.* the payment mode used in Task 1), you receive Rs. 10 per number correctly recalled.
- If you choose the *Quota-tournament*, your performance in **Task 3** will be evaluated relative to the performance of the other five participants of your group in the Task 2.
  * *If you belong to the Scheduled Caste category*: you receive Rs. 30 for each correctly recalled number if you are a winner *i.e.* you have a better Task 3-performance than (i) the other two participants from the Scheduled Caste category in your group in Task 2, **or** (ii) four members of your group in Task 2. If you are not a winner, then you do not earn anything.

  * *If you belong to the General category*: you receive Rs. 30 for each correctly recalled number if you are a winner *i.e.* you have a better Task 3- performance than (i) the other two participants from the General category in your group in Task 2, **and** (ii) four members of your group in Task 2. If you are not a winner, then you do not earn anything.

  You will not be informed of how you did in the tournament until the end of the session. If there are ties the winner will be randomly determined.

If you have any question, please raise your hand and we will answer your question in private.

--*Task 3 will start now.*

Question 3.1. Please indicate on your reporting sheet which payment scheme you prefer to apply to your performance in Task 3. Strike through the option which you would not like to select and circle the option which you would like to select:

Example 1: If you want to be paid according to Piece rate and not according to Quota-Tournament, you should enter:

Piece rate

~~*Quota-Tournament*~~

Example 2: If you want to be according to Quota-Tournament and not according to Piece rate you should enter:

~~*Piece rate*~~

Quota-Tournament

Please select your payment option here:

3. *Piece rate*

4. *Quota-Tournament*

Now, please listen to the dictated numbers carefully and do not write anything before you are invited to do so. --

-- Now, please write down as many of the dictated numbers as you can recall in the next 3 minutes. --

-- Three minutes are over. Please stop writing immediately. --

***--Question 3.2**. Please indicate on your reporting sheet in the box in front of "Question 3.2" how many numbers out of those you have reported you think you have correctly recalled. If this task is selected for payment, you will receive an additional Rs. 50 if your prediction matches your actual score.*

***Question 3.3a**. Please indicate on your reporting sheet in the box in front of "Question 3.3a" which rank, between 1 for the highest number of correct recalls to 6 for the lowest number of correct recalls, you think you have got in Task 3, compared to the five other group members in Task 2. If this task is selected for payment, you will receive an additional Rs.50 if your guess is correct. We ask you to answer this question <u>even if</u> you have chosen the piece rate payment mode. –*

***Question 3.3b:** Please indicate on your reporting sheet in the box in front of "Question 3.3b" which rank, between 1 and 3 you think you have got in Task 2, compared to the three other group members of your own caste. A rank of 1 means you think you got the highest number of correct recalls within your own caste in your group and rank 3 means you think you got the lowest number of correct recalls within your caste in the group and similar for ranks between 1 and 3. If this task is selected for payment, you will receive an additional Rs.50 if your guess is correct.*

***Question 3.4.** Please indicate on your reporting sheet in the box in front of "Question 3.4" what is the chance that you will be among the "winners" <u>in your group of six</u> in this Task. Please indicate any number between 0 and 100, with 0 if you are absolutely sure you are not among the winners <u>in your group of six</u>, 100 if you are absolutely sure that you are among the winners, and some number in between 0 and 100 depending on how sure you are of being among the winners. The higher this number, the more confident you are in being among the winners. You will receive a maximum bonus of Rs.50 and a minimum bonus of 0 for answering this question. The more truthful you are in your report, the higher the bonus will be. In other words, your best interest is in truthfully reporting what you think your chances of being among the winners are. If you are interested in knowing how your bonus is calculated, ask us after the study is over. We ask you to answer this question <u>even if</u> you have chosen the piece rate payment mode.*

Task 4A - Choice 2

In contrast to the previous tasks, you will not have to recall numbers for this Task. Instead you will be paid one more time for the numbers you recalled in **Task 1-Piece rate**. However, you will have to choose which payment mode you prefer to apply to your performance in **Task 1** (when you were paid Rs. 10 per number correctly recalled). You can either choose to be paid according to the *piece rate* or according to the *Quota-tournament*.

If Task 4A is randomly selected for payment, then your earnings for this task are determined as follows.

- If you choose the *piece rate*, you receive Rs. 10 per number correctly recalled in **Task 1**.
- If you choose the *Quota-tournament*, your performance in **Task 1** will be evaluated relative to the performance of the other five participants of your group in the Task 1. * *If you belong to the Scheduled Caste category*: you receive Rs. 30 for each correctly recalled number if you are a winner *i.e.* you have a better Task 1-performance than (i) the other two participants from the Scheduled Caste category in your group in Task 1, **or** (ii) at least four members of your group in Task 1. If you are not a winner, then you do not earn anything
- * *If you belong to the General category*: you receive Rs. 30 for each correctly recalled number if you are a winner *i.e.* you have a better Task 1- performance than (i) the other two participants

from the General category in your group in Task 1, **and** (ii) four members of your group in Task 1. If you are not a winner, then you do not earn anything

You will not be informed of how you did in the tournament until the end of the session. If there are ties, the winner will be randomly determined.

If you have any question, please raise your hand and we will answer your question in private.

--*Task 4A will start now.*

Question 4A.1. *Please indicate on your reporting sheet which* payment scheme you prefer to apply to your performance in **Task 1** and strike through the option which you would not like to select and circle the option which you would like to select.

1. Piece rate

2. Quota-Tournament

Question 4A.2a. *Please indicate on your reporting sheet in the box in front of "Question 4A.2a" which rank, between 1 for the highest number of correct recalls to 6 for the lowest number of correct recalls, you think you have got in Task 1, compared to the five other group members in Task 1. If this task is selected for payment, you will receive an additional Rs.50 if your guess is correct. We ask you to answer this question even if you have chosen the piece rate payment mode.* --
Question 4A.2b. *Please indicate on your reporting sheet in the box in front of "Question 4A.2b" which rank, between 1 for the highest number of correct recalls to 3 for the lowest number of correct recalls, you think you have got in Task 1, compared to the two other group members from the same caste as you in Task 1. If this task is selected for payment, you will receive an additional Rs.50 if your guess is correct. We ask you to answer this question even if you have chosen the piece rate payment mode.*

Question 4A.3. *Please indicate on your reporting sheet in the box in front of "Question 4A.3" what is the chance that you will be among the "winners" in your group of six in this Task. Please indicate any number between 0 and 100, with 0 if you are absolutely sure you are not among the winners in your group of six, 100 if you are absolutely sure that you are among the winners, and some number in between 0 and 100 depending on how sure you are of being among the winners. The higher this number, the more confident you are in being among the winners. You will receive a maximum bonus of Rs.50 and a minimum bonus of 0 for answering this question. The more truthful you are in your report, the higher the bonus will be. In other words, your best interest is in truthfully reporting what you think your chances of being among the winners are. If you are interested in knowing how your bonus is calculated, ask us after the study is over. We ask you to answer this question even if you have chosen the piece rate payment mode.*

Task 4B. Choice 3

Like in Task 4A, you will not have to recall numbers for this Task and you will be paid one more time for the numbers you recalled in Task 1-Piece rate. You will again have to choose which payment mode you prefer to apply to your performance in **Task 1**. The only difference is that the rules for the tournament are now different. The two winners of the tournament are the two group members who had the highest scores in Task 1, *regardless of their caste*.

You can either choose to be paid according to the *piece rate* or according to the *tournament*.

If Task 4B is randomly selected for payment, then your earnings for this task are determined as follows.

- If you choose the *piece rate*, you receive Rs. 10 per number correctly recalled in **Task 1**.
- If you choose the *tournament*, your performance in **Task 1** will be evaluated relative to the performance of the other five participants of your group in the Task 1 –Piece rate. If you correctly recalled in Task 1 more numbers than four of your other group members in Task 1, then you are a "winner" and receive Rs. 30 for each number that you correctly recalled. You will receive no earnings for this task if you choose the tournament and are not among the two

"winners". You will not be informed of how you did in the tournament until the end of the session. If there are ties the winner will be randomly determined.

If you have any question, please raise your hand and we will answer your question in private.

--*Task 4B will start now.*

Question 4B.1. *Please indicate on your reporting sheet which* payment scheme you prefer to apply to your performance in **Task 1**. Strike through the option which you would not like to select and circle the option which you would like to select.

1. *Piece rate*
2. *Tournament*

Question 4B.2a. *Please indicate on your reporting sheet in the box in front of "Question 4B.2a" which rank, between 1 for the highest number of correct recalls to 6 for the lowest number of correct recalls, you think you have got in Task 1, compared to the five other group members in Task 1. If this task is selected for payment, you will receive an additional Rs.50 if your guess is correct. We ask you to answer this question even if you have chosen the piece rate payment mode. –*

Question 4B.2b. *Please indicate on your reporting sheet in the box in front of "Question 4B.2b" which rank, between 1 for the highest number of correct recalls to 3 for the lowest number of correct recalls, you think you have got in Task 1, compared to the two other group members from the same caste as you in Task 1. If this task is selected for payment, you will receive an additional Rs.50 if your guess is correct. We ask you to answer this question even if you have chosen the piece rate payment mode.*

Question 4B.3. *Please indicate on your reporting sheet in the box in front of "Question 4B.3" what is the chance that you will be among the "winners" in your group of six in this Task. Please indicate any number between 0 and 100, with 0 if you are absolutely sure you are not among the winners in your group of six, 100 if you are absolutely sure that you are among the winners, and some number in between 0 and 100 depending on how sure you are of being among the winners. The higher this number, the more confident you are in being among the winners. You will receive a maximum bonus of Rs.50 and a minimum bonus of 0 for answering this question. The more truthful you are in your report, the higher the bonus will be. In other words, your best interest is in truthfully reporting what you think your chances of being among the winners are. If you are interested in knowing how your bonus is calculated, ask us after the study is over. We ask you to answer this question even if you have chosen the piece rate payment mode.*

Instruction for Treatment 3 (T3)

Task 1. Piece rate [Common for T0, T1, T2 and T3]

Task 2. PT-Tournament

As in Task 1, after listening to a series of 15 dictated numbers, you will be given 3 minutes to write down as many recalled numbers as possible (in the limit of 15). However, for this task your payment depends on your performance relative to that of a group of other participants through a method called ***PT-Tournament.***

Before proceeding, we explain the rules of ***PT-Tournament.***

Each group consists of six people, out of which three are from the General Category and three are form the Scheduled Caste category. Thus, you are in a group with five other people present in this session. You will not know who the five other people in your group are. The composition of your group of six remains the same until you are no longer in a group of six. In PT-Tournament the "winners" are determined as follows:

- *If you belong to the Scheduled Caste category*: your final score in the memory game will be your actual score plus 2. You are a "winner" and receive Rs. 30 for each correctly recalled number if you have a better Task 2 – final score than at least four other members of your group. If you are not a winner, then you do not earn anything.
- *If you belong to the General category*: your final score in the memory game is only your actual score. You are a "winner" and receive Rs. 30 for each correctly recalled number if you have a better Task 2- final score than at least four other members of your group. If you are not a winner, then you do not earn anything.

You will not be informed of how you did in the tournament until the end of the session. If there are ties, the winner will be randomly determined.

--Task 2 will start now. Please listen to the dictated numbers carefully and do not write anything before you are invited to do so. --

-- Now, please write down as many of the dictated numbers as you can recall in the next 3 minutes. --

-- Three minutes are over. Please stop writing immediately. --

Question 2.1*. Please indicate on your reporting sheet in the box in front of "Question 2.1" how many numbers out of those you have reported you think you have correctly recalled. If this task is selected for payment, you will receive an additional Rs. 50 if your prediction matches your actual score.*

Question 2.2a*. Please indicate on your reporting sheet in the box in front of "Question 2.2a" which rank, depending on your actual score, between 1 and 6 you think you have got in Task 2, compared to the five other group members. A rank of 1 means you think you got the highest actual score in the group and rank 6 means you think you got the lowest actual score in the group and similar for ranks between 1 and 6. If this task is selected for payment, you will receive an additional Rs.50 if your guess is correct.*
–

Question 2.2b*. Please indicate on your reporting sheet in the box in front of "Question 2.2b" which rank, depending on your final score, between 1 and 6 you think you have got in Task 2, compared to the five other group members. A rank of 1 means you think you got the highest actual score in the group and rank 6 means you think you got the lowest actual score in the group and similar for ranks between 1 and 6. If this task is selected for payment, you will receive an additional Rs.50 if your guess is correct.*
–

Question 2.2c*. Please indicate on your reporting sheet in the box in front of "Question 2.2c" which rank, depending on your final score, between 1 and 3 you think you have got in Task 2, compared to the two other group members of your caste. A rank of 1 means you think you got the highest actual score in*

the group and rank 6 means you think you got the lowest actual score in the group and similar for ranks between 1 and 6. If this task is selected for payment, you will receive an additional Rs.50 if your guess is correct. –

***Question 2.3**. Please indicate on your reporting sheet in the box in front of "Question 2.3" what is the chance that you will be among the top two, depending on your final score, in your group of six in this Task. Please indicate any number between 0 and 100, with 0 if you are absolutely sure you are not among the top two, 100 if you are absolutely sure that you are among the top two, and some number in between 0 and 100 depending on how sure you are of being among the top two. The higher this number, the more confident you are in being among the top two, depending on your final score. You will receive a maximum bonus of Rs.50 and a minimum bonus of 0 for answering this question. The more truthful you are in your report, the higher the bonus will be. In other words, your best interest is in truthfully reporting what you think your chances of being among the winners are. If you are interested in knowing how your bonus is calculated, ask us after the study is over.*

Task 3. Choice

As in the previous two tasks, after listening to a series of 15 dictated numbers, you will be given 3 minutes to write down as many recalled numbers as possible. However, before that, you will get to choose which of the two previous payment modes you prefer to apply to your performance in Task 3. You can either choose to be paid according to the *piece rate*, or according to the *PT-tournament*.

If Task 3 is randomly selected for payment, then your earnings for this task are determined as follows.

- If you choose the *piece rate* (i.e. the payment mode used in Task 1), you receive Rs. 10 per number correctly recalled.
- If you choose the *PT-tournament*, your final score in **Task 3** will be evaluated relative to the final scores of the other five participants of your group in the Task 3.
    - *If you belong to the Scheduled Caste category*: your final score in Task 3 will be your actual score plus 2. You are a "winner" and receive Rs. 30 for each correctly recalled number if you have a better Task 2 – final score than at least four other members of your group. If you are not a winner, then you do not earn anything.
    - *If you belong to the General category*: your final score in the memory game is only your actual score. You are a "winner" and receive Rs. 30 for each correctly recalled number if you have a better Task 3 - final score than at least four other members of your group. If you are not a winner, then you do not earn anything.

You will not be informed of how you did in the tournament until the end of the session. If there are ties the winner will be randomly determined.

If you have any question, please raise your hand and we will answer your question in private.

--*Task 3 will start now.*

Question 3.1. Please indicate on your reporting sheet which payment scheme you prefer to apply to your performance in Task 3. Strike through the option which you would not like to select and circle the option which you would like to select:

Example 1: If you want to be paid according to Piece rate and not according to PT-Tournament, you should enter:

Piece rate

~~*PT-Tournament*~~

Example 2: If you want to be according to PT-Tournament and not according to Piece rate you should enter:

~~*Piece rate*~~

PT-Tournament

Please select your payment option here:

1. *Piece rate*
2. *PT-Tournament*

Now, please listen to the dictated numbers carefully and do not write anything before you are invited to do so. --

-- Now, please write down as many of the dictated numbers as you can recall in the next 3 minutes. --

-- Three minutes are over. Please stop writing immediately. --

***Question 3.2**. Please indicate on your reporting sheet in the box in front of "Question 3.2" how many numbers out of those you have reported you think you have correctly recalled. If this task is selected for payment, you will receive an additional Rs. 50 if your prediction matches your actual score.*

***Question 3.3a**. Please indicate on your reporting sheet in the box in front of "Question 3.3a" which rank, depending on your actual score, between 1 and 6 you think you have got in Task 2, compared to the five other group members. A rank of 1 means you think you got the highest actual score in the group and rank 6 means you think you got the lowest actual score in the group and similar for ranks between 1 and 6. If this task is selected for payment, you will receive an additional Rs.50 if your guess is correct.*

***Question 3.3b**. Please indicate on your reporting sheet in the box in front of "Question 3.3b" which rank, depending on your final score, between 1 and 6 you think you have got in Task 3, compared to the five other group members. A rank of 1 means you think you got the highest actual score in the group and rank 6 means you think you got the lowest actual score in the group and similar for ranks between 1 and 6. If this task is selected for payment, you will receive an additional Rs.50 if your guess is correct. –*

***Question 3.3c**. Please indicate on your reporting sheet in the box in front of "Question 3.3c" which rank, depending on your final score, between 1 and 3 you think you have got in Task 2, compared to the two other group members of your caste. A rank of 1 means you think you got the highest actual score in the group and rank 6 means you think you got the lowest actual score in the group and similar for ranks between 1 and 6. If this task is selected for payment, you will receive an additional Rs.50 if your guess is correct. –*

***Question 3.4.** Please indicate on your reporting sheet in the box in front of "Question 2.3" what is the chance that you will be among the top two, depending on your final score, in your group of six in this Task. Please indicate any number between 0 and 100, with 0 if you are absolutely sure you are not among the top two, 100 if you are absolutely sure that you are among the top two, and some number in between 0 and 100 depending on how sure you are of being among the top two. The higher this number, the more confident you are in being among the top two, depending on your final score. You will receive a maximum bonus of Rs.50 and a minimum bonus of 0 for answering this question. The more truthful you are in your report, the higher the bonus will be. In other words, your best interest is in truthfully reporting what you think your chances of being among the winners are. If you are interested in knowing how your bonus is calculated, ask us after the study is over. We ask you to answer this question even if you have chosen the piece rate payment mode. --*

Task 4A - Choice 2

In contrast to the previous tasks, you will not have to recall numbers for this Task. Instead you will be paid one more time for the numbers you recalled in **Task 1-Piece rate**. However, you will have to choose which payment mode you prefer to apply to your performance in **Task 1** (when you were paid Rs. 10 per number correctly recalled). You can either choose to be paid according to the *piece rate* or according to the *PT-tournament*.

If Task 4A is randomly selected for payment, then your earnings for this task are determined as follows.

- If you choose the *piece rate*, you receive Rs. 10 per number correctly recalled in **Task 1**.
- If you choose the *PT-tournament*, your performance in **Task 1** will be evaluated relative to the performance of the other five participants of your group in the Task 1.
    - *If you belong to the Scheduled Caste category*: your final score will be your actual score in Task 1 plus 2. You are a winner and will receive Rs. 30 for each correctly recalled number if you have a better Task 1 – final score than at least four other members of your group. If you are not a winner, then you do not earn anything.
    - *If you belong to the General category*: your final score will be only your actual score in Task 1. You are a winner and will receive Rs. 30 for each correctly recalled number if you have a better Task 1 - final score than at least four other members of your group. If you are not a winner, then you do not earn anything.

  You will not be informed of how you did in the tournament until the end of the session. If there are ties, the winner will be randomly determined.

If you have any question, please raise your hand and we will answer your question in private.

--*Task 4A will start now.*

Question 4A.1. *Please indicate on your reporting sheet which* payment scheme you prefer to apply to your performance in **Task 1** and strike through the option which you would not like to select and circle the option which you would like to select.

1. Piece rate

2. PT-Tournament

Question 4A.2a. *Please indicate on your reporting sheet in the box in front of "Question 4A.2a" which rank, depending on your actual score, between 1 and 6 you think you have got in Task 1, compared to the five other group members. A rank of 1 means you think you got the highest actual score in the group and rank 6 means you think you got the lowest actual score in the group and similar for ranks between 1 and 6. If this task is selected for payment, you will receive an additional Rs.50 if your guess is correct.*

Question 4A.2b. *Please indicate on your reporting sheet in the box in front of "Question 4A.2b" which rank, depending on your final score, between 1 and 6 you think you have got in Task 1, compared to the five other group members. A rank of 1 means you think you got the highest actual score in the group and rank 6 means you think you got the lowest actual score in the group and similar for ranks between 1 and 6. If this task is selected for payment, you will receive an additional Rs.50 if your guess is correct.*
–

Question 4A.2c. *Please indicate on your reporting sheet in the box in front of "Question 4A.2c" which rank, depending on your final score, between 1 and 3 you think you have got in Task 2, compared to the two other group members of your caste. A rank of 1 means you think you got the highest actual score in the group and rank 6 means you think you got the lowest actual score in the group and similar for ranks between 1 and 6. If this task is selected for payment, you will receive an additional Rs.50 if your guess is correct.*

Question 4A.3. *Please indicate on your reporting sheet in the box in front of "Question 4A.3" what is the chance that you will be among the top two, depending on your final score, in your group of six in this Task. Please indicate any number between 0 and 100, with 0 if you are absolutely sure you are not among the top two, 100 if you are absolutely sure that you are among the top two, and some number in between 0 and 100 depending on how sure you are of being among the top two. The higher this number, the more confident you are in being among the top two, depending on your final score. You will receive a maximum bonus of Rs.50 and a minimum bonus of 0 for answering this question. The more truthful*

you are in your report, the higher the bonus will be. In other words, your best interest is in truthfully reporting what you think your chances of being among the winners are. If you are interested in knowing how your bonus is calculated, ask us after the study is over. We ask you to answer this question even if you have chosen the piece rate payment mode.

Task 4B. Choice 3

Like in Task 4A, you will not have to recall numbers for this Task and you will be paid one more time for the numbers you recalled in Task 1-Piece rate. You will again have to choose which payment mode you prefer to apply to your performance in **Task 1**. The only difference is that the rules for the tournament are now different. The two winners of the tournament are the two group members who had the highest scores in Task 1, *regardless of their caste*.

You can either choose to be paid according to the *piece rate* or according to the *tournament*.

If Task 4B is randomly selected for payment, then your earnings for this task are determined as follows.

- If you choose the *piece rate*, you receive Rs. 10 per number correctly recalled in **Task 1**.
- If you choose the *tournament*, your performance in **Task 1** will be evaluated relative to the performance of the other five participants of your group in the Task 1, based on your actual score. If you correctly recalled in Task 1 more numbers than four of your other group members in Task 1, then you receive Rs. 30 for each number that you correctly recalled. You will receive no earnings for this task if you choose the tournament and are not among the two top scorers. You will not be informed of how you did in the tournament until the end of the session. If there are ties the winner will be randomly determined.

If you have any question, please raise your hand and we will answer your question in private.

--*Task 4B will start now.*

Question 4B.1. *Please indicate on your reporting sheet which* payment scheme you prefer to apply to your performance in **Task 1**. Strike through the option which you would not like to select and circle the option which you would like to select.

1. *Piece rate*
2. *Tournament*

Question 4B.2a. *Please indicate on your reporting sheet in the box in front of "Question 4B.2a" which rank, between 1 for the highest number of correct recalls to 6 for the lowest number of correct recalls, you think you have got in Task 1, compared to the five other group members in Task 1. If this task is selected for payment, you will receive an additional Rs.50 if your guess is correct. We ask you to answer this question even if you have chosen the piece rate payment mode. –*

Question 4B.2b. *Please indicate on your reporting sheet in the box in front of "Question 4B.2b" which rank, between 1 for the highest number of correct recalls to 3 for the lowest number of correct recalls, you think you have got in Task 1, compared to the two other group members of your own caste in Task 1. If this task is selected for payment, you will receive an additional Rs.50 if your guess is correct. We ask you to answer this question even if you have chosen the piece rate payment mode.*

Question 4B.3. *Please indicate on your reporting sheet in the box in front of "Question 4B.3" what is the chance that you will be among the top two, depending on your score, in your group of six in this Task. Please indicate any number between 0 and 100, with 0 if you are absolutely sure you are not among the top two, 100 if you are absolutely sure that you are among the top two, and some number in between 0 and 100 depending on how sure you are of being among the top two. The higher this number, the more confident you are in being among the top two, depending on your final score. You will receive a maximum bonus of Rs.50 and a minimum bonus of 0 for answering this question. The more truthful you are in your report, the higher the bonus will be. In other words, your best interest is in truthfully reporting what you think your chances of being among the winners are. If you are interested in knowing*

how your bonus is calculated, ask us after the study is over. We ask you to answer this question <u>even if</u> you have chosen the piece rate payment mode.

Task 6 – Investment Task [Common for T0, T1, T2 and T3]

At the beginning of this Task you will receive Rs. 100. You are asked to choose how many Rs. (between 0 and 100) you wish to invest in a risky option. The amount that you do not invest is for you to keep.

We will toss a coin at the end of the session.

- If the coin comes up heads, your investment is a success. You earn 3 times the amount invested (plus the amount that you did not invest).

- If the coin comes up tails, your investment is a failure. You earn 0 and lose your investment (you keep only the amount that you did not invest).

Example 1. You invest nothing. The coin flip does not affect your earnings for this part. You get the Rs. 100 for sure.

Example 2. You invest all of the Rs. 100. If the coin comes up heads, you earn Rs. 300; if it comes up tails, you earn nothing and end up with 0 in this part.

Example 3. You invest Rs. 40. It the coin comes up heads, you earn 60 (the amount that you did not invest) + 3 x 40 (the mount you invested) = Rs.180. If the coin lands on tails, you earn Rs. 60 (the amount that you did not invest).

If you have any question, please raise your hand and we will answer your question in private.

Question 6.1 Please indicate on your reporting sheet how much you are willing to invest (between 0 and 100).

Exit Survey [Common T0, T1, T2 and T3]

Demographic questionnaire

Please answer the following questions. We remind you that your responses are anonymous.

1. What is your age _____years
2. What is your gender? Male / Female_____
3. Are you married? |___|Yes |___| No
4. Do you have children? |___| Yes |___| No
    a. If yes how many? _____
    b. How many of these children are under age 5?_____
5. Religion: • Hindu • Muslim • Others
6. If you have a religion, do you pray

    |___| several times per day |___| once per day |___| every week |___| rarely |___| never
7. Caste: • General • OBC • SC • ST • Others/No Caste
8. Education level:
    a. Class _____ (if passed Class 12 or below)
    b. Bachelors
    c. Masters or above
9. Gross Monthly Family Income (before tax): Rs. _____

10. If you compare your family's economic conditions to the others in your village, your family is (tick as appropriate):

___ very poor, ___poor, ___average, ___rich, ___very rich

11. Employment status:
12. No. of years of employment in total
13. No. of years of employment in current job
14. Does your family own a TV? |___| 1=yes, 2=no
15. Does your family own a motorbike or car |___| 1=yes, 2=no.
16. Does your family own a bicycle? |___| 1=yes, 2=no

Risk attitudes

Please answer the following questions. Are you a person who is fully prepared to take risks or do you try to avoid taking risks in the following situations?

Please tick the circle that describes you the best on the following scale, where the value 0 means: 'not at all willing to take risks' and the value 10 means: 'very willing to take risks'.

17. In general

	0	1	2	3	4	5	6	7	8	9	10	
not at all willing to take risks	○	○	○	○	○	○	○	○	○	○	○	very willing to take risks

18. When it comes to financial matters?

	0	1	2	3	4	5	6	7	8	9	10	
not at all willing to take risks	○	○	○	○	○	○	○	○	○	○	○	very willing to take risks

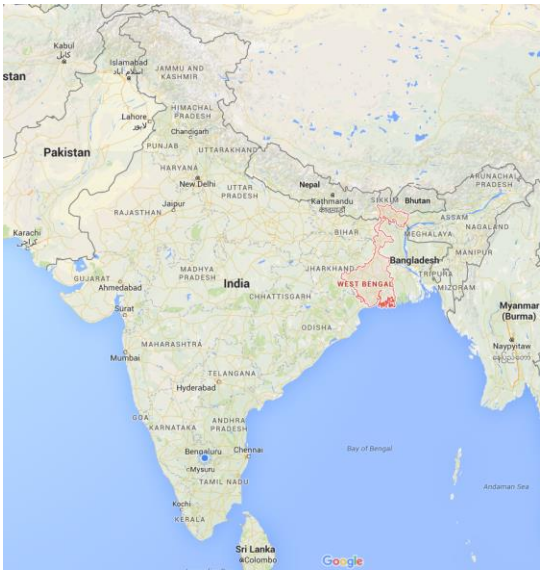
19. When it comes to health matters?

	0	1	2	3	4	5	6	7	8	9	10	
not at all willing to take risks	○	○	○	○	○	○	○	○	○	○	○	very willing to take risks

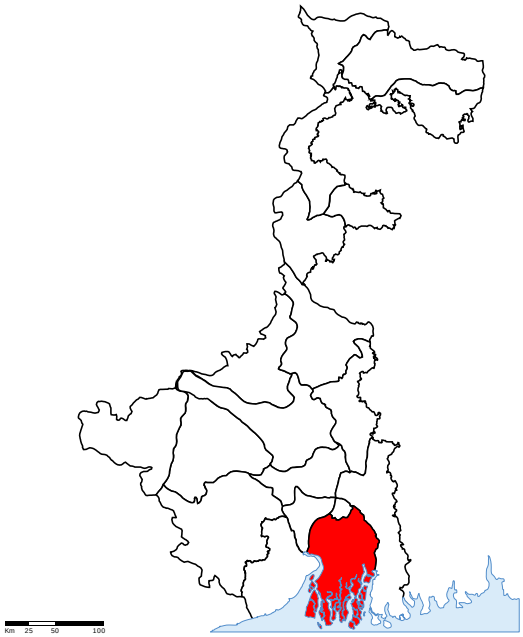
---

Appendix 2. Experimental sites: West Bengal and South 24 Paraganas

(a) West Bengal

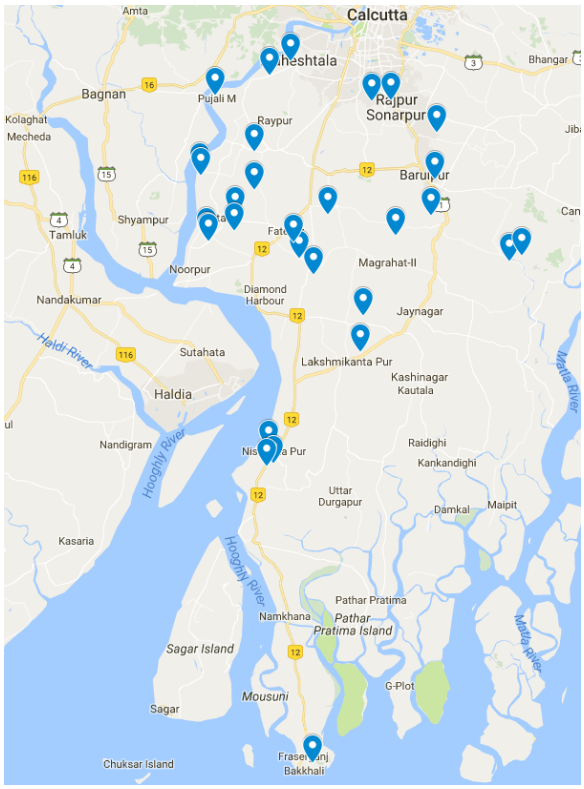


(b) South 24 Paraganas



(c) Blocks within South 24 Paraganas

(d) Sampled Villages and Wards



Appendix 3. Tables

Notes: The Table report mean values. Diff. denote the treatment differences. The numbers in parentheses denote *p*-values reported from Mann-Whitney rank sum tests. [a]: Caste data is presented as General, OBC, SC, ST. [b]: SC is equal to 1 if a subject is either OBC, SC or ST, and 0 otherwise. [c]: Years of education completed

Table A2. Mean performance

A) Subjects choosing the piece-rate in part 3

Treatment	T0		T1		T2		T2-Feedback		T3	
Caste	GC	SC	GC	SC	GC	SC	GC	SC	GC	SC
Memory score in Part 1										
- Mean score	8.06	8.22	8.09	7.56	8.09	8.19	8.04	8.22	7.95	8.07
- Diff. T*i*-T0			0.03	-0.66	0.03	-0.03	-0.02	0	-0.11	-0.15
- Diff. GC-SC	-0.16		0.53		-0.1		-0.18		-0.12	
Memory score in part 2										
- Mean score	8.28	8.74	8.59	8.38	9.07	8.26	9.14	8.87	8.23	8.05
- Diff. T*i*-T0			0.31	-0.36	0.79	-0.48	0.86**	0.13	-0.05	-0.69
- Diff. GC-SC	-0.46		0.21		0.81		0.27		0.18	
Memory score in part 3										
- Mean score	7.38	7.27	7.5	7.00	7.47	7.04	8.13	8.00	7.11	7.63
- Diff. T*i*-T0			0.12	-0.27	0.09	-0.23	0.75**	0.73	-0.27	0.36
- Diff. GC-SC	0.11		0.5		7.43		0.13		-0.52	
Memory score in all parts										
- Mean score	23.72	24.24	24.19	22.97	24.64	23.49	25.32	25.10	23.31	23.76
- Diff. T*i*-T0			0.47	-1.27	0.92	-0.75	1.6	0.86	-0.41	-0.48
- Diff. GC-SC	-0.52		1.22		1.13		0.22		-0.45	

B) Subjects choosing the tournament in part 3

Treatment	T0		T1		T2		T2-Feedback		T3	
Caste	GC	SC	GC	SC	GC	SC	GC	SC	GC	SC
Memory score in Part 1										
- Mean score	8.71	7.33	7.61	7.77	8.43	8.3	9.11	8.07	9.13	7.88
- Diff. T*i*-T0			-1.1	0.44	-0.28	0.97	0.4	0.74	0.42	0.55
- Diff. GC-SC	1.38		-0.16		0.13		1.04		1.25	
Memory score in part 2										
- Mean score	9.41	8.53	9.00	8.00	9.86	10.00	9.67	8.91	9.88	8.72
- Diff. T*i*-T0			-0.41	-0.53	0.45	1.47	0.26	0.38	0.47	0.19
- Diff. GC-SC	0.88		1.00		-0.14		0.76		1.16	
Memory score in part 3										
- Mean score	7.82	7.06	7.90	8.23	7.57	8.4	7.94	8.31	9.06	7.04
- Diff. T*i*-T0			0.08	1.17	-0.25	1.34	0.12	1.25	1.24	-0.02
- Diff. GC-SC	0.76		-0.33		-0.83		-0.37		2.02**	
Memory score in all parts										
-Mean score	25.94	22.93	24.67	24.00	25.86	26.7	26.72	25.28	28.06	23.64
- Diff. T*i*-T0			-1.27	1.07	-0.08	3.77**	0.78	2.35	2.12	0.71
- Diff. GC-SC	3.01		0.67		-0.84		1.44		4.42**	

Notes: Within each variable, the top row represents the mean actual score; the middle row presents the mean differences between treatment T*i* and treatment T0, with *i*=1,2,3; and bottom row presents the mean difference between General category (GC) and Scheduled Castes (SC) subjects. A *t*-test is used to test statistical significance for difference and standard errors are clustered at the village level. ** indicates significance at the 0.05 level.

Table A3. Relative self-confidence (belief on chance of winning), by treatment and caste

A) All subjects

Treatment	T0		T1		T2		T2-Feedback		T3	
Caste	GC	SC	GC	SC	GC	SC	GC	SC	GC	SC
Part 2										
- Mean	57.90	55.34	61.50	51.08	57.48	61.93	56.37	62.93	56.60	63.80
- Diff. T*i*-T0			3.60	-4.26	-0.42	6.63*	-1.53	7.58**	-1.71	8.04**
- Diff. GC-SC	2.64		10.50**		-4.50		-6.55		-7.20	
Part 3										
- Mean	49.45	49.16	49.38	43.83	53.02	58.42	53.97	61.12	49.46	60.59
- Diff. T*i*-T0			-0.07	-5.33	3.57	9.26**	4.52	11.96**	0.01	11.43**
- Diff. GC-SC	0.29		5.55		-5.40		-7.16**		-11.13**	
Part 4††										
- Mean	51.87	53.67	54.00	48.28	51.30	61.21	55.60	60.88	51.74	61.01
- Diff. T*i*-T0			2.13	-5.39	-0.57	7.54*	3.73	7.21**	-0.13	7.34**
- Diff. GC-SC	-1.80		5.72		-9.91*		-5.28		-9.27*	
Part 4B										
- Mean	51.87	53.67	54.00	48.28	56.07	54.58	56.89	53.27	55.08	50.24
- Diff. T*i*-T0			2.13	-5.39	4.20	0.91	5.02	-0.39	3.21	-3.43
- Diff. GC-SC	-1.80		5.72		1.49		3.62		4.84	

B) Subjects choosing the piece-rate in part 3

Treatment	T0		T1		T2		T2-Feedback		T3	
Caste	GC	SC	GC	SC	GC	SC	GC	SC	GC	SC
Part 2										
- Mean	55	57.12	57.32	51.2	55.41	57.98	53.04	56.65	53.27	57.14
- Diff. T*i*-T0			2.32	-5.92	0.41	0.86	- 1.95	-0.46	-1.72	0.02
- Diff. GC-SC	-2.12		6.12		-2.56		-3.60		-3.86	
Part 3										
- Mean	44.24	47.12	43.78	41.64	49.65	51.63	51.92	54.97	45.61	53.32
- Diff. T*i*-T0			-0.46	-5.47	5.41	4.51	7.68**	7.85	1.37	6.20
- Diff. GC-SC	-2.87		2.13		-1.97		-3.05		-7.70	
Part 4										
- Mean	48.4	52.45	49.90	47.37	47.98	58.49	53.12	54.55	49.40	55.69
- Diff. T*i*-T0			1.50	-5.08	-0.41	6.03	4.72	2.09	1.00	3.23
- Diff. GC-SC	-4.05		2.53		-10.50**		-1.42		-6.28	
Part 4B										

- Mean	48.4	52.45	49.90	47.37	53.53	50.33	54.71	50.71	52.25	46.07
- Diff. T*i*-T0			1.50	-5.08	5.13	-2.11	6.31	-1.74	3.85	-6.38
- Diff. GC-SC	-4.05		2.53		3.19		3.99		6.17	

C) Subjects choosing the tournament in part 3

Treatment	T0		T1		T2		T2-Feedback		T3	
Caste	GC	SC	GC	SC	GC	SC	GC	SC	GC	SC
Part 2										
- Mean	70.29	47.53	74.57	50.46	67.85	69.56	69.12	72.53	69.77	77.12
- Diff. T*i*-T0			4.27	2.92	-2.43	22.03*	-1.16	24.99*	-0.52	29.58*
- Diff. GC-SC	22.76*		24.10*		-1.70		-3.40		-7.34	
Part 3										
- Mean	70.88	58.13	66.47	55.61	69.14	69.1	62.38	70.53	67.10	74.6
- Diff. T*i*-T0			-4.40	-2.51	-1.73	10.96	-8.49	12.39	-3.77	16.46**
- Diff. GC-SC	12.74		10.86		0 .04		-8.14		-7.49	
Part 4										
- Mean	66.17	59	66.47	53.15	67.14	65.29	64.94	70.56	62.27	73.08
- Diff. T*i*-T0			0.29	-5.84	.96	6.29	-1.23	11.56	-3.90	14.08
- Diff. GC-SC	7.17		13.32		1.84		-5.61		-10.80	
Part 4B										
- Mean	66.17	59	66.47	53.15	68.21	62.5	65.22	57.18	67.83	59.4
- Diff. T*i*-T0			0.29	-5.84	2.03	3.5	-0.95	-1.81	1.65	0.4
- Diff. GC-SC	7.17		13.32		5.71		8.03		8.43	

Notes: Panel A) reports mean belief about chance of winning for all subjects, Panel B) for subjects who have chosen piece rate in Part 3, Panel C) for subjects who have chosen tournament in Part 3. Within each variable, the top row represents the mean belief about chance of winning; the middle row presents the mean differences between treatment T*i* and treatment T0, with *i*=1,2,3; and bottom row presents the mean difference between General category (GC) and Scheduled Castes (SC) subjects. A *t*-test is used to test statistical significance for difference. *, ** indicates significance at the 0.10, 0.05 level, respectively.

Table A4. Absolute self-confidence

Treatment	T0		T1		T2		T2-Feedback		T3	
Caste	GC	SC	GC	SC	GC	SC	GC	SC	GC	SC
ALL SUBJECTS										
Absolute self-confidence in part 2										
- Mean prediction error	1.14	1.22	1.78	0.90	1.37	1.31	1.34	1.35	1.33	1.30
- Diff. T*i*-T0			0.64**	-0.32	0.23	0.09	-0.21	0.14	0.19	0.08
- Diff. GC-SC	-0.08		0.88**		0.06		-0.01		0.03	
Absolute self-confidence in part 3										
- Mean prediction error	1.47	1.54	1.63	1.36	1.70	1.73	1.57	1.73	1.52	1.94
- Diff. T*i*-T0			0.16	-0.18	0.23	0.19	0.10	0.19	0.05	0.40
- Diff. GC-SC	-0.07		0.27		-0.03		0.15		-0.42	
SUBJECTS CHOSING PIECE-RATE IN PART 3										
Absolute self confidence in part 2										
- Mean prediction error	1.02	1.06	1.53	0.74	1.34	1.49	1.20	0.97	1.31	1.22
- Diff. T*i*-T0			0.51	-0.32	0.32	0.43	0.18	-0.09	0.29	0.16
- Diff. GC-SC	-0.04		0.79**		-0.15		0.23		0.09	
Absolute self-confidence in part 3										
- Mean prediction error	1.3	1.39	1.45	1.34	1.56	1.86	1.45	1.55	1.63	1.64
- Diff. T*i*-T0			0.15	-0.05	0.26	0.47	0.15	0.16	0.33	0.25
- Diff. GC-SC	-0.09		0.11		-0.3		-0.1		-0.01	
SUBJECTS CHOSING TOURNAMENT IN PART 3										
Absolute self-confidence in part 2										
- Mean prediction error	*1.59*	*1.93*	2.52	1.77	1.78	0.97	1.89	1.93	1.44	1.48
- Diff. T*i*-T0			0.93	-0.16	0.19	-0.96	0.3	0	-0.15	-0.45
- Diff. GC-SC	0.54		0.75		0.81		-0.04		-0.04	
Absolute self-confidence in part 3										
- Mean prediction error	2.17	2.2	2.19	1.46	2.36	1.5	2.06	2.00	1.07	2.6
- Diff. T*i*-T0			0.02	-0.74	0.19	-0.7	-0.11	-0.2	-1.1	0.4
- Diff. GC-SC	-0.03		0.73		0.86		0.06		-1.53**	

Notes: Panel A) reports mean belief about numbers correctly recalled, Panel B) for subjects who have chosen piece rate in Part 3, Panel C) for subjects who have chosen tournament in Part 3. Within each variable, the top row represents the mean belief about chance of winning; the middle row presents the mean differences between treatment T*i* and treatment T0, with *i*=1,2,3; and bottom row presents the mean difference between General category (GC) and Scheduled Castes (SC) subjects. A *t*-test is used to test statistical significance for difference. *, ** indicates significance at the 0.10, 0.05 level, respectively.

Table A5. Determinants of tournament choice in part 4B

	(1)	(2)
Step 2: Dep. Variable: Tournament choice in part 4B		
Predicted belief on being a winner	0.56*** (0.10)	0.58*** (0.10)
Socio-demographic variables	*No*	*Yes*
Step 1: Dep. Variable: Belief on being a winner in part 4B		
Scheduled Caste subjects (SC)	-0.04 (0.06)	-0.06 (0.06)
Treatment T1	0.01 (0.09)	0.01 (0.09)
Treatment T2	0.09 (0.07)	0.09 (0.07)
Treatment T2-Feedback	0.07 (0.07)	0.05 (0.08)
Treatment T3	0.09 (0.06)	0.09 (0.06)
SC*T1	-0.05 (0.11)	-0.04 (0.11)
SC*T2	-0.05 (0.09)	-0.04 (0.08)
SC* T2-Feedback	-0.06 (0.10)	-0.06 (0.10)
SC*T3	-0.08 (0.10)	-0.06 (0.10)
Score in part 2	0.05*** (0.01)	0.05*** (0.01)
Socio-demographic variables	*No*	*Yes*
Number of observations	840	836
Log pseudo-likelihood	-914.28	-899.02
Prob>chi2	<0.001	<0.001

Notes: Clustered standard errors at the village level are in parentheses. The two columns report marginal effects. In the first step estimation, the dependent variable in columns (1) and (2) is the belief that the subject will be among the winners in part 4B. In the second step, a probit model estimates the probability to choose the tournament in part 4B. T0 and T1 did not have part 4B, so data from part 4 is used. *** indicates significance at the 0.01 level.

Table A6. Determinants of the reported die outcome

	Aligned interests		Unaligned interests	
Reported outcome	In-group match (1)	Out-group Match (2)	In-group match (3)	Out-group match (4)
T2	0.227 (0.234)	0.078 (0.089)	0.074 (0.196)	-0.248 (0.166)
T2-Feedback winner	-0.258 (0.250)	-0.281 (0.245)	-0.506 (0.351)	-0.648*** (0.226)
T2-Feedback loser	-0.470**(0.213)	0.322**(0.132)	0.082(0.245)	0.049 (0.226)
T3	0.083 (0.275)	0.022 (0.184)	0.020 (0.265)	-0.190 (0.207)
T1*GC	0.174 (0.208)	-0.040 (0.131)	-0.027 (0.129)	0.173 (0.283)
T2*GC	-0.100 (0.238)	-0.386* (0.228)	-0.100 (0.112)	0.418** (0.211)
T2-Feedback winner*GC	0.307 (0.305)	-0.402 (0.409)	0.143 (0.280)	0.134 (0.305)
T2-Feedback loser*GC	0.469***(0.136)	-1.011***(0.151)	-0.165 (0.312)	0.506**(0.251)
T3*GC	0.261 (0.293)	-0.268 (0.294)	-0.025 (0.229)	0.310# (0.190)
Number of observations	324	324	351	351
Log pseudo-likelihood	-502.621	-552.236	-619.032	-583.482
Prob>chi2	0.001	<0.001	0.718	<0.001
Pseudo R2	0.012	0.019	0.004	0.020

Notes: Ordered probit models with clustered standard errors at the village level in parentheses. T for treatment, GC for General Category. ***, **, *, and # indicate significance at the 0.01, 0.05, 0.1, and 0.102 level, respectively.

Appendix 4. Pictures of some experimental sessions

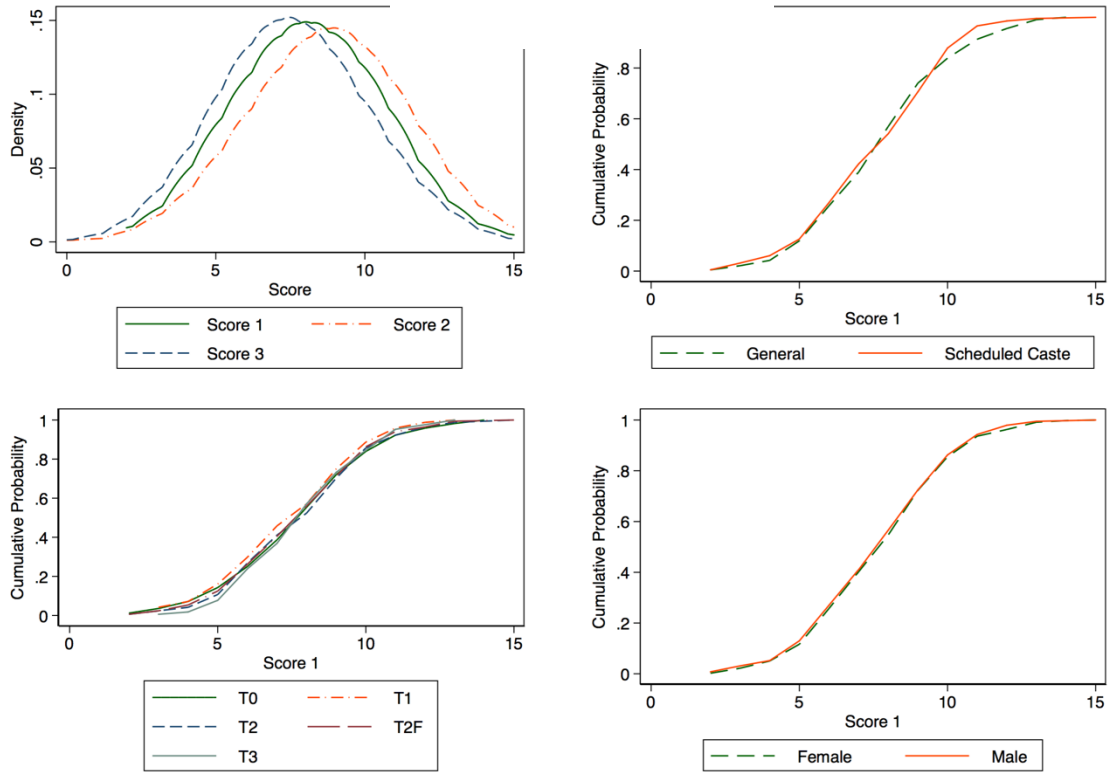
(a)

(b)

(c)

Appendix 5. Figures

Figure A1: Distribution of scores in the memory task



Notes: The top left panel plots the distribution of the scores obtained in parts 1, 2 and 3, namely score1, score2 and score3. The mean scores are 8.01, 8.63 and 7.42, respectively. The figure in the top right panel compares score in part 1 across castes. The mean score in part 1 is 8.12 for the GC subjects and 7.98 for the SC subjects (*t*-test, *p*=0.40). The figure in the bottom right panel compares scores across gender. Mean score in part 1 is 8.16 for males and 7.93 for females (*t*-test, *p*=0.30). The figure in the bottom left panel plots the distribution of scores in part 1 for each treatment. Score in part 1 does not vary either between T1 and T0 (*t*-test, *p*=0.34), or T2 and T0 (*t*-test, *p*=0.84), or T3 and T0 (*t*-test, *p*=0.93). All standard errors are clustered at the village level. We rely only on score in part 1 to illustrate balance across treatments since treatments can potentially affect scores in subsequent parts.

Figure A2: Relative self-confidence: prediction error about being a winner

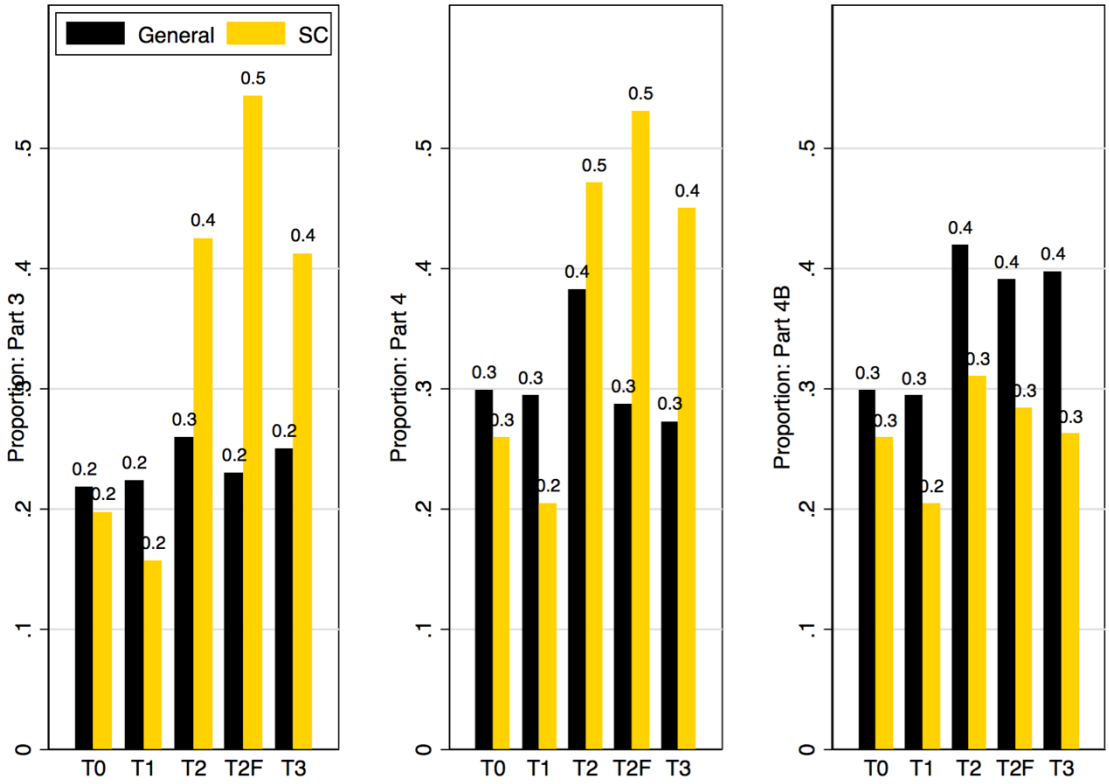


Figure A3: Absolute self-confidence: prediction error

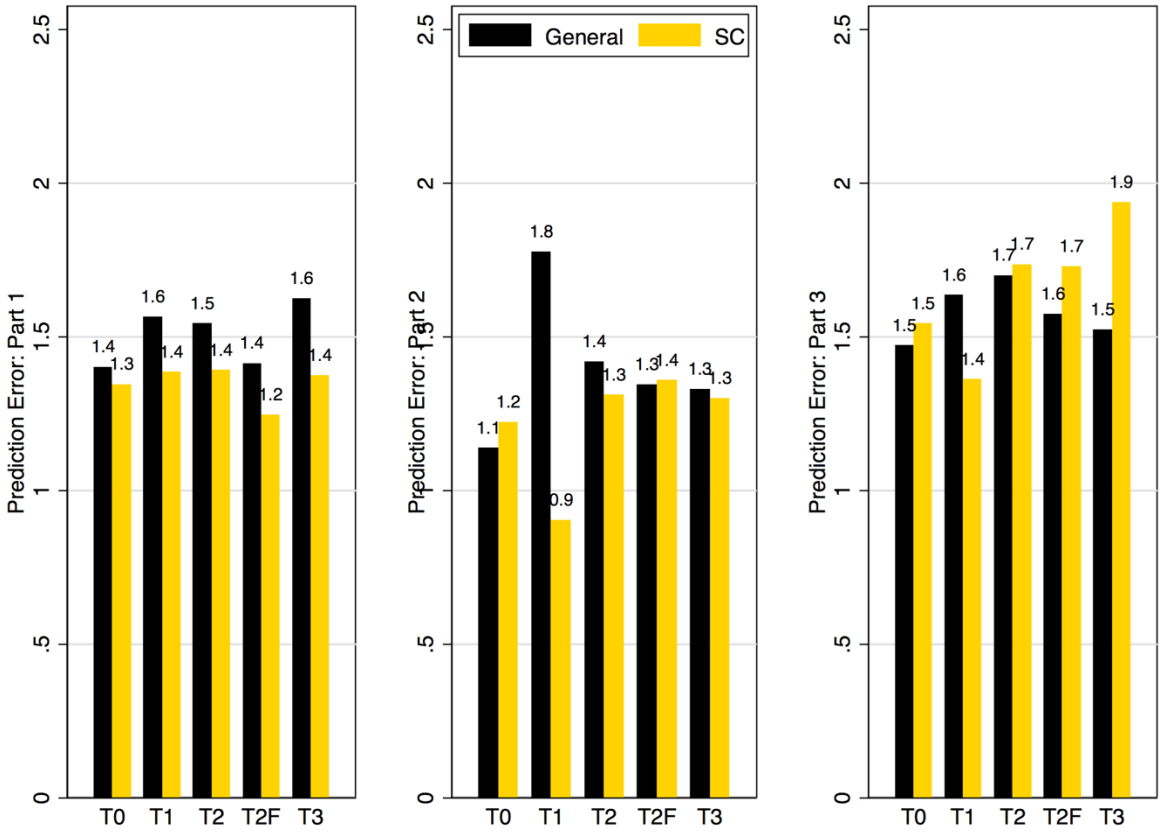
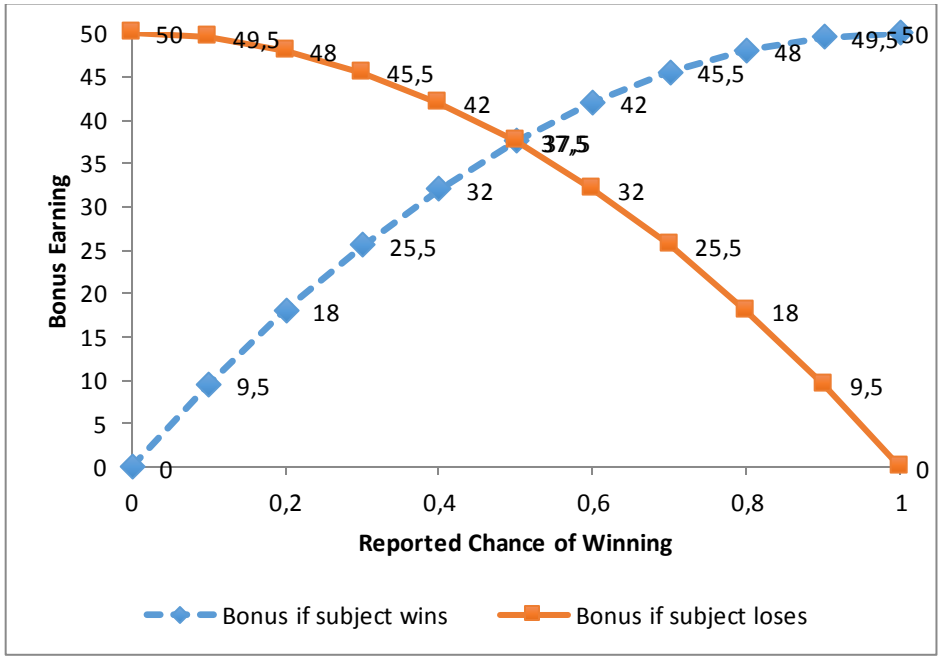


Figure A4: Proper Scoring Schedule



Note: Subjects reported their beliefs about their chance of winning. Depending on whether they won or lost, they received a bonus according to the scoring schedules plotted above. The amounts indicated are in INR. The *x*-axis represents the reported belief about the chance of winning and the *y*-axis represents the amount of the bonus.