Effect of Social Information on Competition Choice

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Abstract

We show that social information about competition choices influences subjects' willingness to compete. In a laboratory experiment, subjects perform a real-effort task under piece-rate and, tournament incentives, and subsequently participate in two choice rounds. Before the subjects' willingness to compete is elicited in the treatment round, they are informed about choices made by other participants in the baseline round. We vary the kind of information we provide across the treatment groups. Comparing the within-subject competition choices across treatments, we find that social information conveying the proportion of others choosing to compete affects subject's willingness to compete. Observing a lower willingness to compete by others increases the likelihood of one's willingness to compete. This result suggests that subjects strategically choose to compete based on their treatment induced belief about the average ability of the others. This effect is particularly strong for women which attenuates the gender gap in willingness to compete.

Keywords: Social Information; Peer Effects; Willingness to Compete; Gender

1. Introduction

An important hallmark of modern organizations is that candidates are evaluated and promoted through a competitive process. These important career events require prospective candidates to compete against each other. In such events, individuals often decide how much to compete by observing their peers. Besides, organizations may have policies where the pool of employees competing for a promotion is public information. In professional portals, such as LinkedIn, applicants compare themselves to other applicants for a listed job opening. In such instances, the information about their peers' competition strategy play a decisive role in one's own competitive strategy. In such situations, would the information about the choices of others (competing pool) affect an individual's decision to apply? If information about others' choices has an effect, this could have implications for selection and promotion processes. We study how informing the participants, about the competition choice of their peers affects their own decision to compete. We use an experimental design with two choice rounds of a task, where the participants choose between a non-competitive and a competitive payment scheme. Before choosing the payment scheme for the second time, the participants are informed about the choices of their peers in the first-choice round. By varying the nature of the information provided to participants we test whether peer choices affect competition entry.

The effect of social information (information about others' decisions) on individual decisions is well established. Knowing that a high percentage of others donate increases the likelihood of individuals donating to charity (Frey & Meier, 2004; Krupka & Weber, 2009). Further, when presented with social information which is either above or below their previous contributions, individuals change their contributions in the direction of social information i.e. they increase (or decrease) contribution if the social information is above (or below) their previous contribution (Croson & Shang, 2008; Shang & Croson, 2009). Further individuals reduce their consumption of environmental resources such as water and electricity when informed that others are doing so (Ferraro et al., 2011; Ferraro & Price, 2013; Allcott, 2011; Allcott & Rogers, 2014). In these decisions, social information establishes an acceptable social norm and affects behavior through pro-social concerns. It is an open question, however, if individuals' willingness to compete, which is usually not affected by pro-social concerns, is influenced by social information? Our paper addresses this question.

Experimental measure of willingness to compete (Niederle & Vesterlund, 2007) significantly affects economic outcomes for individuals (see Niederle (2017) for a review). This measure of competitiveness significantly predicts educational choices such as academic track and stream choices, where more competitive students gravitate towards STEM-related fields of study (Buser et al., 2014, 2017, 2021). Further, in the labour market, more competitive individuals are found to earn more than their less competitive peers and are also more likely to work in high-paying industries (Reuben et al., 2015). The standard measure of willingness to compete is based on the choice between a piece-rate compensation and a tournament scheme, where the pay-offs follow a winner-takes-all design. This decision, like most human decisions, could be shaped by social learning, among other things. For instance, competitiveness has been shown to be influenced by cultural and societal norms (Gneezy et al., 2009), family background (Almås et al., 2015), and successful role models from one's own social group (Alan & Ertac, 2019).

In our study, we analyse the effect of providing social information on the willingness to compete. We experimentally manipulate the information given to the subjects before choosing the payment scheme in the treatment round. In the *Average Treatment*, subjects are informed, through text displayed on the experiment screen, about the percentage of participants in the session who chose tournament in the baseline round. However, like in most information treatment in the literature, in the *Average Treatment* a decision-maker may be influenced by the information provided and may rationally update her beliefs, or she may be simply influenced by the salience of the information provided. For instance, in our setting, the subjects can be influenced by the 'percentage of participants choosing tournament' or the salience of the 'tournament payment scheme' itself. While the preferred interpretation in the literature is that the former channel is at work, the later remains a confound, which the research has been largely silent about. In this paper, we attempt to disentangle the two effects. To tease out whether the participants are influenced by the 'percentage of participants choosing tournament' or the salience of 'the tournament payment scheme' (tournament) in the information presented, we design the *Random Treatment* where the subjects are informed about the choice made by a randomly chosen player from the session. This allows us to separate out the effect driven by the content of the message (conveying the proportion choosing tournament) versus the effect driven by the salience of the decision

displayed in the message (decision of a randomly chosen player). The information presented in the control group is generic and does not reveal the choices of one or more of the other participants. Comparisons of the control group with the treatments allow us to analyse how subjects respond to the peer information and whether salience is an underlying mechanism through which their competition choices can be explained.

Next, we turn to gender differences in the treatment effects. The motivation for this comes from the widely documented gender gaps in willingness to compete in the literature (Niederle & Vesterlund, 2007, Niederle, 2017). These differences in willingness to compete have been shown to explain the observed gender differences in education and labour market outcomes (see Bertrand (2011) and Niederle & Vesterlund (2011) for review). These differences have several implications: for example, women are less likely to opt for jobs involving competitive wage compensations and negotiate for higher wages (Flory et al., 2015; Leibbrandt & List, 2015), resulting in widening gender gap in wages and considerable underrepresentation of women in leadership positions of organizations. Given that a large and burgeoning literature on gender is emergent, a central question is – what is an effective policy measure that can help decrease gender gap in competition? Our experiment sheds important light on whether information about peers can help decrease such gender gaps.

Subjects participate in an experiment with multiple rounds. The first two rounds, Task 1 and Task 2, have a piece-rate and a tournament incentive payment scheme, respectively. In Task 3 and Task 6, the subjects can choose whether they want to be paid by piece-rate or tournament scheme. The information about the competition choices of the subjects in Task 3 is provided to each subject before they make their choice of the payment scheme in Task 6. It is this content of the information that we vary across the three treatments. In the *Control Treatment*, we give the subjects a generic 'non-informative' information about tournament choice in Task 3. In the *Average Treatment*, we provide information about the percentage of participants in the session who chose tournament in Task 3. In *Random Treatment*, we provide information about the choice of a randomly picked participant. Using the variation in the information provided to the treatment groups, we estimate the effect of social information on the willingness to compete.

We find that, in the *Average Treatment*, the information about the percentage participants choosing competition significantly increases the likelihood of subjects choosing competition.

However, the information about the competition choice of a randomly chosen subject does not have any effect. This indicates that the subjects are responding to the information conveying the proportion choosing competition and not just the salience of tournament choice in the message. Further, using the variation in the information within the treatment groups across sessions, we find that information conveying a low proportion (below 40 percent) of others choosing tournament, is more likely to induce subjects to choose competition. Thus, we find that the effect of social information on willingness to compete is in the opposite direction to what we would expect under conformity. This is an important result given that the effects of social information on decisions such as donations (Croson & Shang, 2008), environmentally responsible behavior (Allcott & Rogers, 2014; Ferraro & Price, 2013) and on risky behavior (Helfinstein et al., 2014; Tomova & Pessoa, 2018) are in the direction of conformity.

For those subjects who chose piece-rate for Task 3 in the baseline, observing that others were not choosing competition was significantly more likely to induce them to switch to tournament. In the *Average Treatment*, when informed about the proportion of participants choosing competition being low, and in the *Random Treatment*, when informed that the randomly chosen subject had opted for piece-rate, subjects were more likely to switch from a piece-rate in Task 3 to tournament in Task 6. These results further suggest that individuals are making a strategic choice to compete based on the beliefs about the average ability of the competitors rather than just conforming with the crowd.

Further, in the *Average Treatment,* we find that when women learn about the proportion of others choosing tournament being low, they respond significantly more than men in choosing to compete. This reduces the raw gender gap observed in the treated choice round relative to baseline. We do not find any such effect in the case of information about the choice of the randomly chosen participant. Given the economic consequences of gender gaps in competitiveness, studies have explored interventions that could mitigate the gaps in competitiveness. Affirmative action has been found to increase the willingness to compete for women (Niederle et al., 2012; Sutter et al., 2016) and backward communities (Banerjee et al. 2018). Institutional programs such as sponsorship or mentorship have also been shown to mitigate the gender gap in competitiveness (Baldiga & Coffman, 2018). Brandts et al., (2015) show that advice from a better-informed person increases competition entry for strong-

performing women, while Kessel et al., (2021) find that merely informing the subjects of the existing gender gaps in such previous studies reduces the gender gap. Our study contributes to this strand of literature focused on mitigating the gender gaps in willingness to compete. We find that information about others' competition choice significantly reduces the gender gap in willingness to compete.

The following section discusses the experimental design and procedure. Section 3 and 4 presents our findings while Section 5 discusses these results and concludes.

2. Experimental Design

At the beginning of the session, the subjects were informed that they would complete six tasks in total and one of the tasks would be randomly picked for payment. The first three tasks and the sixth task involve a real effort task based on Niederle & Vesterlund (2007) which measure task performance, beliefs about performance, and willingness to compete. The fourth and the fifth tasks are related to incentivized elicitation of willingness to cooperate and risk preferences, respectively.

2.1 Experimental Tasks

Our measure of willingness to compete closely follows the design of Niederle & Vesterlund, (2007). The experiment comprises of six distinct parts, which we call *tasks.* Before the tasks begin, subjects are randomly assigned to groups of four, which remain unchanged and anonymous throughout the experiment. In each of Task 1, 2, 3 and 6, a subject is provided with a series of simple Math problems, each based on two matrices.

The matrix problems

The subjects are presented with two 3x3 matrices, side by side on the screen and are required to pick the smallest numbers from each matrix, add the two smallest numbers, and enter the sum in the space provided. They are presented with a maximum of 30 such matrices, one after the other, and have to solve as many as possible in 90 seconds. The score for each task is decided by the number of right answers entered.

Task 1 – 3, 6

In Task 1, the subjects complete the matrix problems under piece-rate compensation scheme, they are paid 25 INR for every correct answer. We refer to this payment scheme as Rule-25. In Task 2, they are paid under tournament compensation scheme, where the subject scoring the highest in his/her group of four is paid 100 INR for every correct response, while the remaining members do not get anything. In the case of a tie, the winner is chosen randomly. We denote this payment rule as Rule-100.

In Task 3 subjects choose the payment rule before commencing the addition task. Subjects choosing Rule-25 (piece-rate) are paid 25 INR for every correct answer. For subjects choosing Rule-100 (tournament), their scores in Task 3 are compared to the scores of group members in Task 2 and they are paid 100 INR for every correct answer if their score exceeds the scores of group members in Task 2, zero otherwise. The comparison of Task 3 performance to Task 2 performances is made salient to the participants, to ensure that payment choice is not driven by pro-social preferences. Participants are informed that their choices in Task 3 does not affect the payoffs of other participants in that task. After completing the addition task under both the payment schemes in Task 1 and 2, the choice between the two payment schemes in Task 3 gives us a baseline measure of willingness to compete.

Task 6 is the second choice round and our main outcome of interest, the choice of payment rule, is collected at this round. First, the subjects are given a specific piece of information about the choices of the subjects in Task 3. This information is varied between the treatment groups and made salient on the display screen. After that, their preferred payment rule is recorded, following which they begin the matrix problem task. The nature of information provided and its variation between the treatment groups is discussed in the next section.

Task 4-5

In Task 4, subjects participate in a linear public good game, in which they contribute either INR 0 or INR 150 (Isaac et al., 1984). This gives us a measure of the prosocial behavior of the subjects. In Task 5, we measure risk preferences using a design based on Holt & Laury (2002). The subjects make a series of 16 choices between a lottery with an expected value of INR 200 and certain amounts that ranged from INR 20 to INR 320. These choices of the subjects are used to determine the risk aversion coefficient assuming a CRRA utility function.

2.2 Treatments

Control Treatment – For the subjects in the control group, the following information was displayed: **"Some subjects chose Rule-100 while others chose Rule-25."** Clearly, the above statement does not provide the subject with any credible signal regarding the choice of other subjects in Task 3 of the experiment, and therefore, does not have any information value.

Average Treatment – In this treatment, the subjects are provided information about the proportion of subjects who choose Rule-100 in Task 3. The following information is displayed**: "The percentage of subjects who chose Rule-100 in Task 3 is 'X' %."** The value of 'X' is based on the actual proportion of subjects choosing Rule-100 in Task 3 of the session in which the experiment was conducted. Thus, 'X' varied between sessions and was the same for all the subjects in the session.

Random Information – In this treatment, the subjects are given the following information: **"One randomly chosen participant chose Rule 'Y' in Task 3**." Rule 'Y' was either Rule-100 or Rule-25 depending on the actual choice made by a randomly chosen subject from the session. As in the case of *Average Treatment*, the value of Rule-'Y' varied only between sessions and remains constant for the subjects within the session.

In each of Tasks 1, 2, 3, and 6, we collect information on what score a subject expects before she begins solving the matrix addition task. At the end of each task, we also elicit a subject's belief about her absolute performance (number of matrices she believes she got correct) and her relative performance (her perceived rank within the group of four). These belief elicitations were incentivized with a bonus of 50 INR, in addition to the payoff from the task.

At the end of six tasks we collect a subject's demographic details as well as obtain some behavioral measures. The behavioral measures obtained are the following: a three-question version of cognitive reflection test (CRT) based on Frederick (2005), risk aversion through survey questions asking for their willingness to take risks (Dohmen et al., 2010), time discounting through a series of hypothetical questions on the preference between 100 INR in a month vs money today ranging from 100 INR to 55 INR (based on Reuben et al. (2007)), altruism (Falk et al., 2016), optimism based on Scheier et al. (1994), and aspirations of subjects about their GPAs in the course and future incomes.

2.3 Sample and Implementation

The experiment was programmed on oTree (Chen et al., 2016) and was conducted at a premier business school in India. The subjects are recruited from the first year cohort of the flagship two-year MBA program of the business school. They are selected into this program through a highly competitive exam at the national level and are a cohort of high achieving individuals, to whom the idea of competition is second nature.[1] The students usually land up with lucrative job offers after they graduate and go on to secure prominent leadership positions in the Indian private corporate sector through their career. As such, the unique subject pool in our study is an important salient point of the paper.

The students joined the institute on the third week of June in 2020 and the experiment was conducted from 17th to 19th August 2020. Thus, the students were yet to internalize the competitiveness norms prevalent in the institute but operated with the competitiveness norms that they entered the institute with. This is important since we wanted to make sure that the choices made in the experiment were devoid of the locally generated short term competition norms. The subjects from a section were invited to a session and one of the three treatments were randomly administered to them – thus, the randomization was done at the subject level within each session.[2] In total, there were 307 subjects across 8 sessions, out of which 100 subjects participated in the *Control* treatment, 102 in the *Average Information* treatment, and 105 in the *Random Information* treatment. For each session, all the subjects were admitted into a Zoom meeting with their videos and microphones turned off, so as to avoid spillovers from visual and auditory cues. At the end of the session, the subjects were informed about their payoffs. The subjects on average earned about 420 INR (including participation fee) for a session that lasted about an hour and fifteen minutes.

2.4 Predictions

In the experiment, the subjects make two rounds of tournament entry choices (Task 3 and Task 6). Before choosing for the second time, the subjects are informed about the tournament

[1] In 2021, about 191,660 students appeared for Common Aptitude Test (CAT) in India. Those who made it to this premier institute are among the top 1000 rank holders.

[2] As per the institutional policy, the incoming cohort of students are allocated to multiple sections based on stratified randomization, such that sections are balanced on demographic features such as gender, education qualification, previous work experience, etc.

entry of their peers in the session. Based on the nature and content of the information in the treatments we make the following predictions about the tournament entry choices in Task 6.

2.4.1 Effect of social information on individual's willingness to compete

Observing the decisions of peers in the group has been known to influence one's own decisions especially in the context of risky decisions (Helfinstein et al., 2014; McCoy & Natsuaki, 2018; Tomova & Pessoa, 2018). Growing literature also recognizes the role of social influence on economic behavior (Hallsworth et al., 2017; Wärneryd, 1988; Young, 2015). Thus, our first research hypothesis is that subjects' willingness to compete is influenced by the information about the competition choices of other subjects.

Hypothesis 1: The competition choice of individuals is significantly different when provided with the information about the competition choices of others in the session, compared to a no-information scenario.

2.4.2 The direction and mechanism of social information effect

Our second conjecture is about the mechanism through which the information about other subjects' tournament choices influences individual choices. There are two possible channels through which social information can influence competition choice: one, when subjects learn that a lower proportion of others have chosen tournament, it may signal a low average ability in the session and this may induce them to compete more. Two, if the information indicates that a higher proportion of other participants have chosen competition, this may induce a behavioral contagion or peer effect or conformity effect, thus, motivating people to compete even more. Which of the two effects persist, is at the end of the day, an empirical question. Thus, our second research hypothesis is:

Hypothesis 2: Subjects may be more or less likely to choose competition if they observe that their peers are not choosing to compete and vice-versa.

Another competing mechanism could be 'peer effect' or 'conformity effect'. The subjects learning that other subjects are choosing tournament may emulate the choices in conformity to the decision of their competing peers. (Bikhchandani et al., 1998; Fatas et al., 2018)

We test these competing mechanisms using the variation in information provided under both the treatments.

3. Main Results

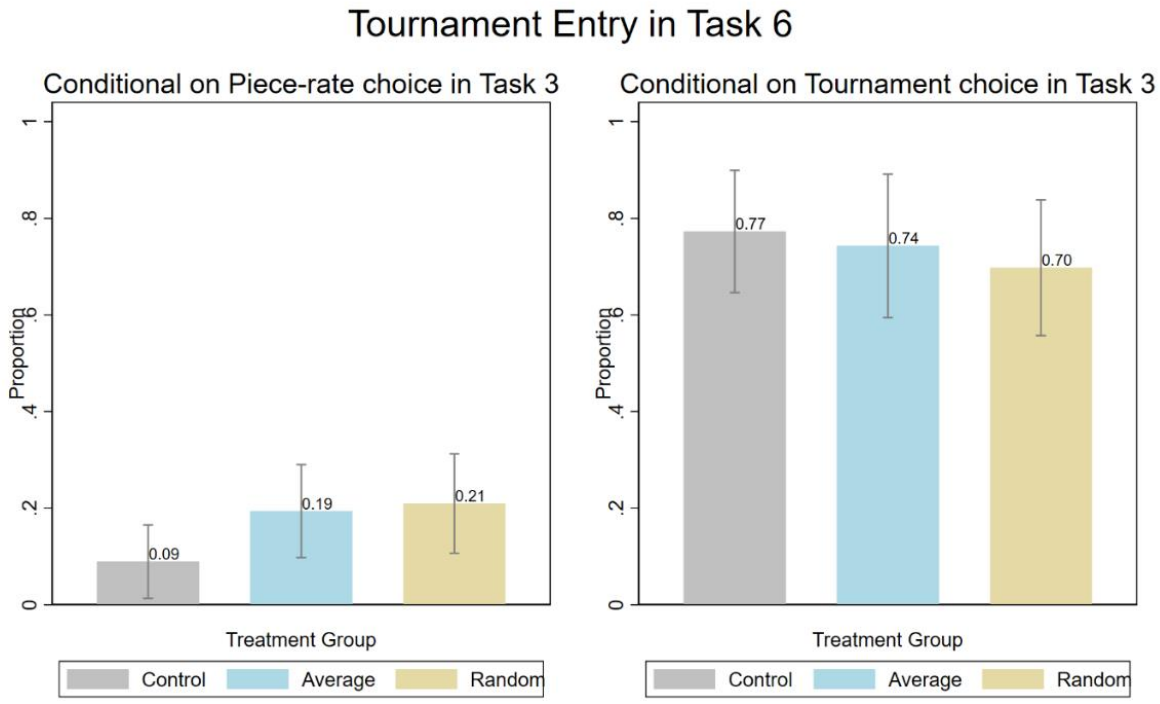
3.1 Descriptive Results – Willingness to Compete and Gender Differences

Table A1 reports the summary statistics of the demographic variables, experimental outcomes, and behavioral measures and compares them across the treatments. The demographic control variables are balanced across treatments with no significant differences in means (t-test) for any of the variables. The task-related outcomes of the experiment are well balanced, with only the mean rank in Task 6 of the *Random Treatment* being significantly different from the control treatment at 10 % level (t-test, p-value = 0.077). Behavioral measures are also generally well-balanced. Only the measure of willingness to share is significantly different for the *Average Treatment* at 5 % level. We control for these variables in the regression analysis.

We are interested in measuring the effect of information about peers' competition choices on the likelihood of subjects choosing to compete. The design of our experiment enables us to perform a within-subject comparison of choices between the baseline choice round (Task 3) and the treatment choice round (Task 6) across treatments. At the baseline (Task 3) the proportion choosing tournament is not statistically distinguishable between the treatment groups. Further, the degree of consistency (choosing the same payment scheme) in the subjects' choices between Task 3 and Task 6 are different across treatment groups. While the proportion of subjects making consistent choice in the *Control* group is 0.85, the same number in the *Average Treatment* is 0.78 (rank sum test, p-value=0.23) and that in Random Treatment is 0.75 (rank sum test, p-value=0.08). This suggests that subjects in the two treatment groups are marginally more likely to switch from their baseline competition choice. However, what exactly is the nature of the switch and how does it vary with the competition choice made in Task 3? To answer this, we analyse the competition choices in Task 6 across treatments, conditional on their baseline choice. Figure 1 presents this comparison. We find that subjects who chose piece-rate in the baseline, are more likely to switch to competition in both the *Average* and *Random Treatment*. As seen in Figure 1(a), the proportion of subjects switching to tournament is 0.09 in the control group. This proportion is 0.21 in the *Random Treatment* (rank sum, p-value = 0.07) and 0.19 in the *Average Treatment* (rank sum, p-value = 0.10). On the other hand, Figure 1(b) suggests that for the subjects who chose tournament in the

baseline round, the proportion choosing tournament again in the treatment round, is not statistically different between the treatment groups. Table A2 in Appendix 1 further presents these results.

Figure 1. Conditional Competition Choice by Treatment in Task 6

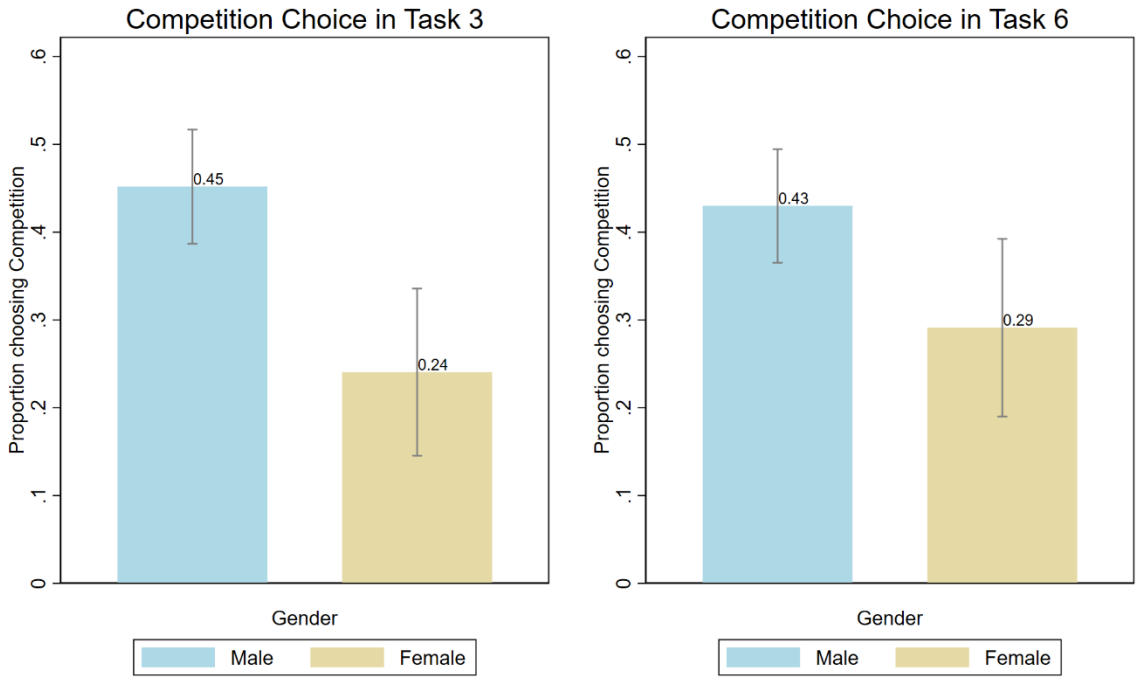


Notes: The graph depicts the proportion of subjects who chose tournament (Rule-100). Bars indicate the proportion +/- standard error.

Women having lower willingness to compete has been widely documented. Consistent with the literature, we find significant raw differences between the genders in our sample. The proportion of subjects choosing competition by gender is presented in Figure 2. Figure 2(a) shows that women are less likely to choose tournament (Rule-100) than men both in Task 3 (p-value<0.01) and in Task 6 (p-value=0.029). Although we find that the male and female subjects are significantly different in their task performance distribution (Kolmogorov-Smirnov test, p-value<0.001), controlling for these differences does not explain away the gender gaps in competition choice.[3] However, including controls for predicted rank in the task, the gender gaps become insignificant in both the choice rounds. This suggests that beliefs about one's rank substantially explain the gender gap in competition entry.

[3] Refer to table A3 in appendix

Figure 2. Gender Gaps in Competition Choice



Notes: The graph depicts the proportion of subjects who chose Rule-100 (tournament). Bars indicate the proportion +/- standard error.

3.2 Information Effect

We are primarily interested in the effect of social information provided in the treatments on the competition choices of the subjects. With our experimental design consisting of two rounds of competition choice, we estimate the treatment effect of the information provided on competition choice in the treatment round (Task 6), controlling for competition choices in the baseline (tournament entry in Task 3). We closely follow Niederle & Vesterlund (2007) in controlling for task performance and predicted ranks in the task. As the subjects participate in four rounds of the real effort task, we include task performance of all the rounds to control for learning or experience with the task. We estimate a probit regression and report the marginal effects in Table 1.[4] We find that, the *Average Treatment*, where we provide information about the proportion of participants in the session choosing tournament, significantly increases the likelihood of subjects choosing tournament. The *Random*

[4] We also estimate the treatments with linear probability model, where we find the results are very similar to the average marginal effects from probit regression. The LPM results are available on request.

Treatment, where the choice of a randomly chosen player is revealed, does not have a significant effect. In Table 1, the first and the fourth columns control only for task performance and predicted rank (beliefs about one's relative performance in the group). The second and fifth columns additionally control for behavioral measures while the third and sixth columns further add demographic measures as controls. We include session dummies to control for session level unobserved heterogeneity in all the specifications and report robust standard errors.

Controlling only for task performance and predicted rank , we find that the subjects in the *Average Treatment* are about 8.3 percentage points more likely to choose tournament (p-value = 0.086). The treatment effect and its significance remain robust to the inclusion of behavioral measures (treatment effect = 0.090, p-value = 0.050) and demographic controls (treatment effect = 0.097, p-value = 0.032). This suggests that the information about the proportion choosing tournament, significantly influences the competition choice. The treatment effect we observe could be due to participants responding to the proportion choosing 'Rule 100' or responding to the salience of the term 'Rule-100' presented in the information. The information presented in the *Random Treatment* allows us to test if the effect is driven by 'salience'. No significant effects for the information in *Random Treatment* (columns 4, 5 and 6) suggest that the effect of social information observed in the *Average Treatment* is driven by subjects processing the social information, factoring in the proportion choosing to compete, while making their decisions.

Result 1: Social information about the percentage of other participants choosing Rule-100 (tournament) increases the likelihood of subjects choosing Rule-100.

Table 1. Treatment Effect on Tournament Entry in Task 6 (treated round)

	Average Treatment			*Random Treatment*		
	Task 6 Competition Choice					
VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
Average	0.083*	0.090**	0.097**			
	(0.048)	(0.046)	(0.045)			
Random				0.061	0.070	0.052
				(0.051)	(0.049)	(0.048)
Task 6 Performance	0.013	0.019	0.013	0.014	0.018*	0.018
	(0.012)	(0.012)	(0.011)	(0.011)	(0.011)	(0.011)
Task 6 Pred Rank	-0.122***	-0.115***	-0.149***	-0.126***	-0.117**	-0.127***
	(0.043)	(0.040)	(0.038)	(0.046)	(0.046)	(0.043)
Task 3 Choice	0.339***	0.284***	0.304***	0.323***	0.296***	0.324***
	(0.037)	(0.038)	(0.045)	(0.043)	(0.044)	(0.039)
Observations	202	202	199	205	205	204
Task Performance	Yes	Yes	Yes	Yes	Yes	Yes
Behavioral measures	No	Yes	Yes	No	Yes	Yes
Demographic controls	No	No	Yes	No	No	Yes

The dependent variable: Choosing Rule-100 (tournament) in Task 6 (yes: 1, no: 0). The table reports the average marginal effects from Probit Regression. Session dummies are included to control for unobservable session heterogeneity. Robust standard errors are reported in parenthesis. Behavioral measures include measures for risk preference, altruism, and optimism. Demographic controls include age, gender, religion, caste, previous academic records, and work experience. Col (1) and (4) control for task performances in Task 1, 2, 3 and predicted ranks for Task 3. Col (2) and (5) add controls for behavioral measure, while Col (3) and (6) also include demographic controls. *** p<0.01, ** p<0.05, * p<0.1

3.3 Peer Effect Mechanism

Next, we analyse the possible mechanism and the direction of the social information effect by exploiting the variation in the information provided in each of the treatments. Recollect that in the *Average Treatment*, the subjects are shown the proportion of subjects who chose Rule-100 (tournament) in Task 3 in that session. We categorize this running variable into percentages above and below 40. The overall proportion of subjects choosing tournament in the Task 3 is 39.75%, and hence, we choose the cut-off value of 40%. In the *Random Treatment,* the subjects see that a randomly chosen player had chosen either Rule-25 (piece-rate) or Rule-100 (tournament). This variation within the treatment groups allows us to estimate the direction of the effect as well as the plausible mechanism driving it.

Table 2. Effect of Information on Tournament Entry in Treatment Round (Task 6)

	Average Treatment			*Random Treatment*		
	Task 6 Competition Choice					
VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
Average below 40	0.130	0.166**	0.155**			
	(0.080)	(0.072)	(0.071)			
Average above 40	0.046	0.030	0.051			
	(0.063)	(0.059)	(0.059)			
Rule 100				0.048	0.069	0.016
				(0.078)	(0.080)	(0.075)
Rule 25				0.072	0.071	0.084
				(0.068)	(0.065)	(0.065)
Task 6 Performance	0.014	0.020*	0.015	0.014	0.018*	0.017
	(0.012)	(0.012)	(0.011)	(0.011)	(0.011)	(0.011)
Task 6 Pred Rank	-0.120***	-0.113***	-0.149***	-0.126***	-0.117**	-0.131***
	(0.043)	(0.039)	(0.038)	(0.047)	(0.046)	(0.045)
Task 3 Choice	0.331***	0.271***	0.288***	0.325***	0.297***	0.331***
	(0.038)	(0.038)	(0.044)	(0.043)	(0.044)	(0.040)
Observations	202	202	199	205	205	204
Task Performance	Yes	Yes	Yes	Yes	Yes	Yes
Behavioral measures	No	Yes	Yes	No	Yes	Yes
Demographic controls	No	No	Yes	No	No	Yes

The dependent variable: Choosing Rule-100 (tournament) in Task 6 (yes: 1, no: 0). The table reports the average marginal effects from Probit Regression. Session dummies are included to control for unobservable session heterogeneity. Robust standard errors are reported in parenthesis. Behavioral measures include measures for risk preference, altruism, and optimism. Demographic controls include age, gender, religion, caste, previous academic records, and work experience. Col (1) and (4) control for task performances in Task 1, 2, 3 and predicted ranks for Task 3. Col (2) and (5) add controls for behavioral measure, while Col (3) and (6) also include demographic controls. *** p<0.01, ** p<0.05, * p<0.1

The regression results are presented in Table 2 (the column specifications are the same as in Table 1). Within the *Average Treatment*, controlling for only task performance and belief measures, we find that, subjects who learn that less than 40% of participants chose competition are 13 percentage points (p-value = 0.104) more likely to chose tournament. This effect is robust to inclusion of behavioral measures (treatment effect = 0.166, p-value = 0.020), as well as demographic controls (treatment effect = 0.155, p-value = 0.028). However, we do not find any significant effects when subjects learn that the proportion of subjects choosing tournament is higher than 40 percent. This suggests that the treatment effect for the *Average Treatment* is driven mainly by the subjects observing a lower percentage of

competition choice. Thus, we find that the effect of social information on competition choice to be in the opposite direction of conformity. Information conveying a lower proportion of others choosing tournament could signal lower average ability in the group. This could increase the beliefs of the subjects about their rank in the group and hence they strategically choose to compete maximizing their payoffs. The information about others' tournament entry decisions influences the subjects prominently through the strategic channel rather than a conformity-driven peer effect.

In the *Random Treatment*, we find that neither information i.e. a randomly chosen player choosing Rule-25(piece-rate) or Rule-100 (tournament) has any significant effect. This indicates that the treatment effects we observe are due to the subjects processing the social information about the proportion choosing Rule-100 and not merely by the salience of 'Rule-100' or 'Rule-25' in the information provided.

Result 2: The information conveying lower competitiveness of other participants significantly increases the likelihood of choosing competition.

3.4 Treatment Effect Heterogeneity

Given the raw gender differences in willingness to compete, we next analyse if the nature of information has differential effects by gender. We analyse the heterogeneous effects of the information on average competitiveness by including the interactions of the female dummy with the dummies for each information category within each treatment. Since interaction effects are harder to interpret in a non-linear regression in terms of marginal effects, we use a linear OLS regression.[5] In the *Average Treatment*, across all specifications, we find that the interaction term for females and average-below-40 is positive and significant. As before, we do not find any significant effects in case of *Random Treatment*. To interpret the size of these significant interaction effects we report the predicted probabilities of choosing competition in Task 6 in Table 3. These predictions control for task performance, rank prediction, behavioral and demographic measures (as in column 3 in Table A4). Results show that female subjects in the 'average-below-40' group, have a higher probability of choosing competition

[5] The detailed results are reported in the table A4. The results from probit regression are consistent with the interaction effects from OLS both in terms of direction and significance. Probit results are reported in Table A5 in the appendix.

(0.718) than female subjects in the control group (0.398, Δ = 0.319, p-value = 0.034). In the case of male subjects, probability of choosing competition when seeing 'average-below-40' (0.367) is not statistically different from the control group (0.387, Δ = -0.020, p-value = 0.801). The effect of 'average-below-40' in increasing the likelihood of choosing competition is higher for female subjects than it is for male subjects (second difference: 0.319 – (-0.020) = 0.340; p-value = 0.039). On the other hand, there are no significant treatment effects for the information subsets in the *Random Treatment*.

Table 3. Probability of choosing competition in Task 6 by gender and information group

	Pr(T6 Competition)	First Diff	Second Diff
	Average info		
Male - Control	0.387***		
	(0.038)		
Male - Avg Below 40	0.367***	-0.020	
	(0.067)	(0.080)	
Male - Avg Above 40	0.296***	-0.091	
	(0.078)	(0.085)	
Female - Control	0.398***		
	(0.069)		
Female - Avg Below 40	0.718***	0.319**	0.340**
	(0.135)	(0.150)	(0.165)
Female - Avg Above 40	0.343***	-0.055	0.036
	(0.119)	(0.135)	(0.153)
	Random Info		
Male - Control	0.393***		
	(0.039)		
Male - Rule 25	0.397***	0.004	
	(0.101)	(0.105)	
Male - Rule 100	0.405***	0.012	
	(0.068)	(0.081)	
Female - Control	0.379***		
	(0.071)		
Female - Rule 25	0.360***	-0.019	-0.023
	(0.133)	(0.148)	(0.177)
Female - Rule 100	0.538***	0.159	0.146
	(0.105)	(0.130)	(0.150)

The first column reports the predicted tournament choice in Task 6 for each of the gender-information category from Linear Probability Model which controls for task performance, predicted ranks, behavioral and demographic measures. The second column reports the first difference between the treatment and control for the given gender group. The third column reports the difference-in-difference estimate. The standard errors are given in parenthesis. *** p<0.01, ** p<0.05, * p<0.1

The positive response of females to social information conveying a lower proportion of participants choosing competition is an important result that contributes to reducing the gender gap in competition in Task 6 relative to Task 3. We also find that controlling for task performances, the gender gap in choosing Rule-100 while being significant in Task 3 (Table A3, column 2), becomes insignificant in Task 6 (Table A3, column 6). However, with the inclusion of predicted ranks, the gender gap in competition choice becomes insignificant in both tasks (columns 4 and 8 respectively).

Result 3: In the *Average Treatment*, women respond more to information on lower competitiveness compared to men, and this leads to closing the gender gap in willingness to compete.

4. Additional Results

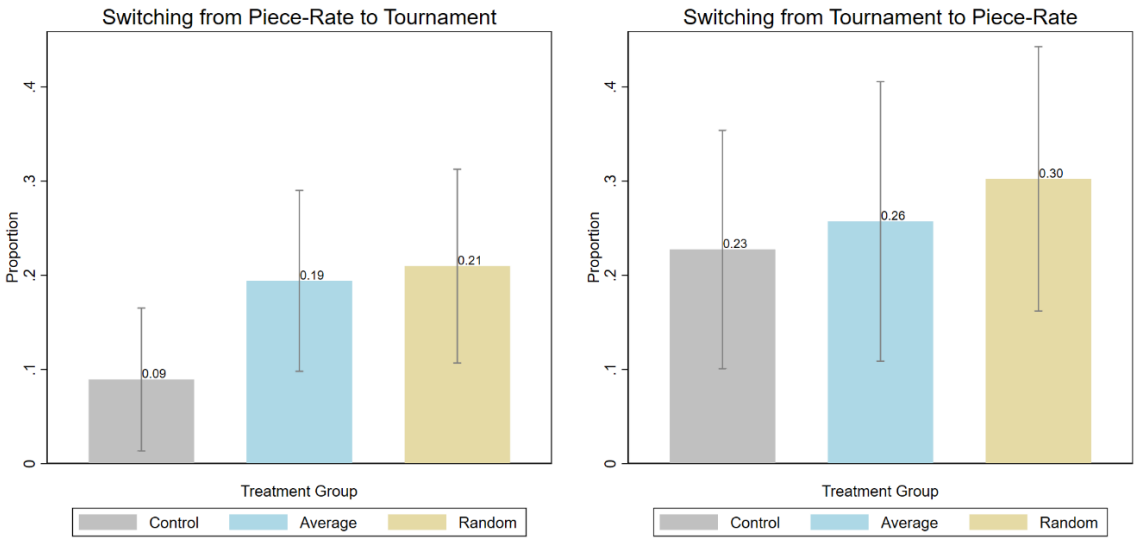
4.1 Who are the subjects switching to competition?

So far we have found that the information about the competition choices of other participants increases the likelihood of subjects choosing competition. Controlling for baseline willingness to compete we find that the subjects who observe a lower proportion of peers competing are more likely to compete. However, this does not significantly increase the overall level of competition in the treatment groups. Hence, we next analyse the effect of the treatment conditional on the baseline choice in Task 3. For subjects who chose piece-rate in Task 3, we find that they significantly change their choices after the social information is presented. In Figure 3, on the left panel, we show the proportion of subjects who switched to tournament in Task 6 after choosing piece-rate in Task 3. The proportion of individuals switching from piece-rate to competition is higher in both the *Average Treatment* (p-value=0.103) and *Random Treatment* (p-value=0.07). Conversely, amongst subjects who initially chose tournament in Task 3, the proportion of subjects switching their choice to piece-rate is not significant in either of the treatment groups.[6]

[6] Table A2 in the appendix presents more detailed comparison of tournament entry conditional on choices in the baseline choice round.

Thus, the information we provide causes more subjects who chose piece-rate to switch to competition, while it doesn't affect the subjects who originally chose competition.[7] This indicates that those who may have a lower willingness to compete are more likely to be influenced by the information about peers' choices.

Figure 3. Proportion Switching Choices between Task 3 (baseline) and Task 6 (treated)



Notes: The left panel of the graph depicts the proportion of subjects who chose piece-rate in the baseline Task 3 but switched to tournament in treatment Task 6. The right panel of the graph depicts the proportion of subjects who initially chose tournament in the baseline Task 3 but switched to piece-rate in treatment Task 6. Bars indicate the proportion +/- standard error.

We next analyse how the information provided in the treatment affects the switching of choice from piece-rate to tournament. We hereafter refer to this choice switch as P2C. For subjects who initially make a piece-rate choice in Task 3, P2C takes the value of 1 when they switch their choice to tournament in Task 6 and takes the value of 0 when they stick with their choice of piece-rate. Using P2C as the dependent variable, we next analyse the effect of information on the competition entry. It is important to note that, this is a select sample of subjects who initially chose piece-rate and are likely to have a lower willingness to compete.

We replicate the specifications presented in Table 2, on the sample of initial non-competers and estimate the effect of information on inducing a switch in competition choice (P2C). The regression results are presented in Table 4. Controlling for performance, predicted ranks behavioral measures, we find that, information conveying low average competitiveness

[7] As reported in Tables A6 and A7, these results hold even after controlling for task performance, predicted ranks, behavioral and demographic measures.

increases the likelihood of switching to competition by 16.8 percentage points (p-value = 0.102). This effect is stronger with the inclusion of demographic controls (treatment effect = 0.243, p-value = 0.004). We do not find significant effects for average-above-40 information category. In the *Random Treatment*, with the inclusion of behavioral measures we find significant positive effects for Rule-25 (treatment effect = 0.212, p-value = 0.075), but not for Rule-100 (effect = 0.084, p-value = 0.225). Further with inclusion of demographic controls, the treatment effect for Rule-25 is 0.259 (p-value = 0.013), while the effect for Rule-100 is 0.134 (p-value=0.081). The significant treatment effect for 'average-below-40' in *Average Treatment* and for 'Rule-25' in the *Random Treatment* further substantiate our earlier result that the social information contributes to competition choice through the strategic channel.

Table 4. Effect of Information on Switching to Competition

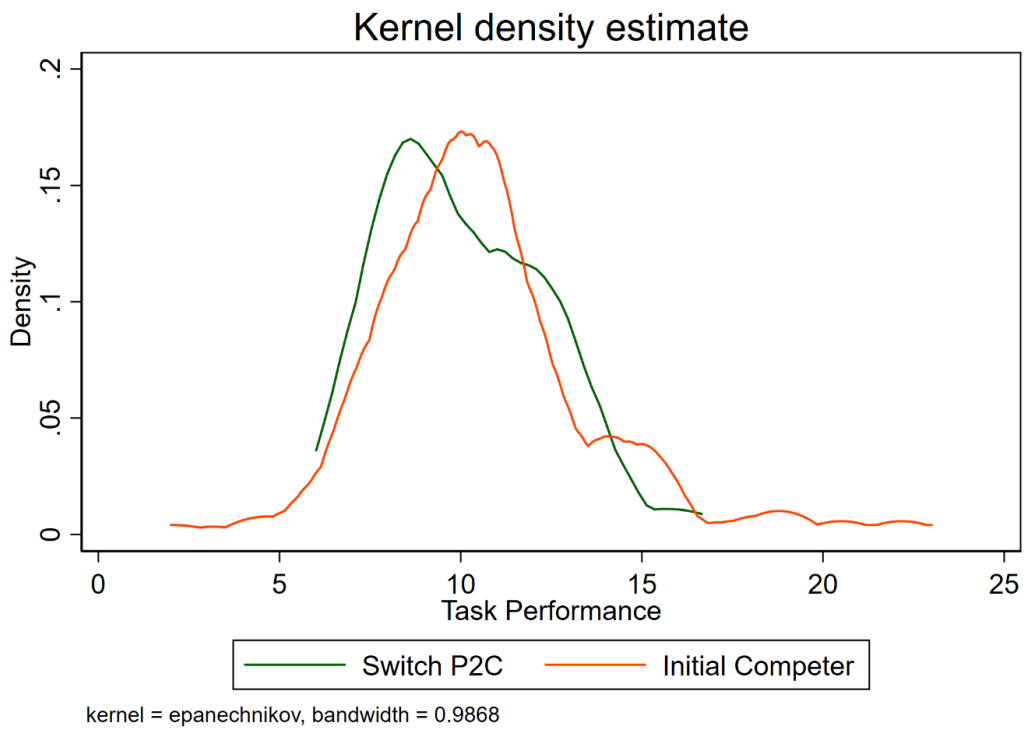
	Average Treatment			*Random Treatment*		
	Switching from Piece-rate to Competition					
VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
Average below 40	0.141	0.168	0.243***			
	(0.116)	(0.103)	(0.083)			
Average above 40	0.096	0.075	0.014			
	(0.080)	(0.070)	(0.078)			
Rule 25				0.205	0.212*	0.259**
				(0.129)	(0.119)	(0.104)
Rule 100				0.063	0.084	0.134*
				(0.069)	(0.069)	(0.077)
Task 6 Performance	-0.010	-0.002	-0.005	0.007	0.013	0.015
	(0.017)	(0.016)	(0.016)	(0.014)	(0.014)	(0.013)
Task 6 Pred Rank	-0.102*	-0.092**	-0.124***	-0.078	-0.062	-0.037
	(0.055)	(0.047)	(0.044)	(0.059)	(0.055)	(0.044)
Observations	123	123	104	118	118	117
Task Performance	Yes	Yes	Yes	Yes	Yes	Yes
Behavioral measures	No	Yes	Yes	No	Yes	Yes
Demographic controls	No	No	Yes	No	No	Yes

The dependent variable: Conditional on making an initial choice of piece-rate in Task 3, switching to competition (yes: 1, no: 0). The table reports the coefficients from Linear Probability Model. The Rule-100 (or Rule-25) indicates whether the subjects in the *Random Treatment* see the choice of the randomly chosen participant in Task 3 is Rule-100 (or Rule-25). Session dummies are included to control for unobservable session heterogeneity. Robust standard errors are reported in parenthesis. Task performance measures include scores in Task 1, 2, 3

and predicted ranks for Task 3. Behavioral measures include measures for risk preference, altruism, and optimism. Demographic controls include age, gender, religion, caste, previous academic records, and work experience. *** p<0.01, ** p<0.05, * p<0.1

We next test if the subjects who are induced to switch to tournament after learning about the choices of their peers are different in ability from those subjects who chose tournament in the baseline. We first look at the ability distribution of subjects who switch to competition. We find that the mean task performance in Task 1, Task 2, and Task 3 (tasks before Task 6) is not statistically different between subjects who initially choose competition and those who initially choose piece-rate but switch to competition in Task 6 (t-test, p-value=0.369).[8] We also do not find any statistical difference in the distribution of the task performance between these two groups as shown in Figure 4 (Kolmogorov-Smirnov test, p-value=0.589). Thus, we find that subjects who are switching from piece-rate to competition are not different in terms of their task performance compared to those who initially chose competition.

Figure 4. Comparison of Task Performance of Switchers and Initial-Competers



Notes: The 'Switch P2C' refers to participants who initially make piece-rate choice in the baseline task, but then switch to competition in the treatment round. The 'Initial Competer' refers to participants who chose tournament in the baseline task.

[8] Comparison of Task Performance is provided in Table A7.

4.2 Is switching optimal?

While we observe that the information significantly induces subjects to switch to tournament, we do not know the welfare consequences of the choice switch. Hence, we test if the induced switching (P2C) adversely affects the subject's payoffs. By switching to a winner-takes-all scheme it could be possible that subjects lose when they are not top ranked in the group.

In Table 5, we regress the payoffs of the subjects with the indicator for switching to competition among subjects pooled across the two treatment groups. The results indicate that the earnings on average are not significantly affected by switching. Thus, we do not find evidence for the information induced switching to be welfare decreasing.

Table 5. Effect on Pay-off of Switching from Piece-rate to Competition

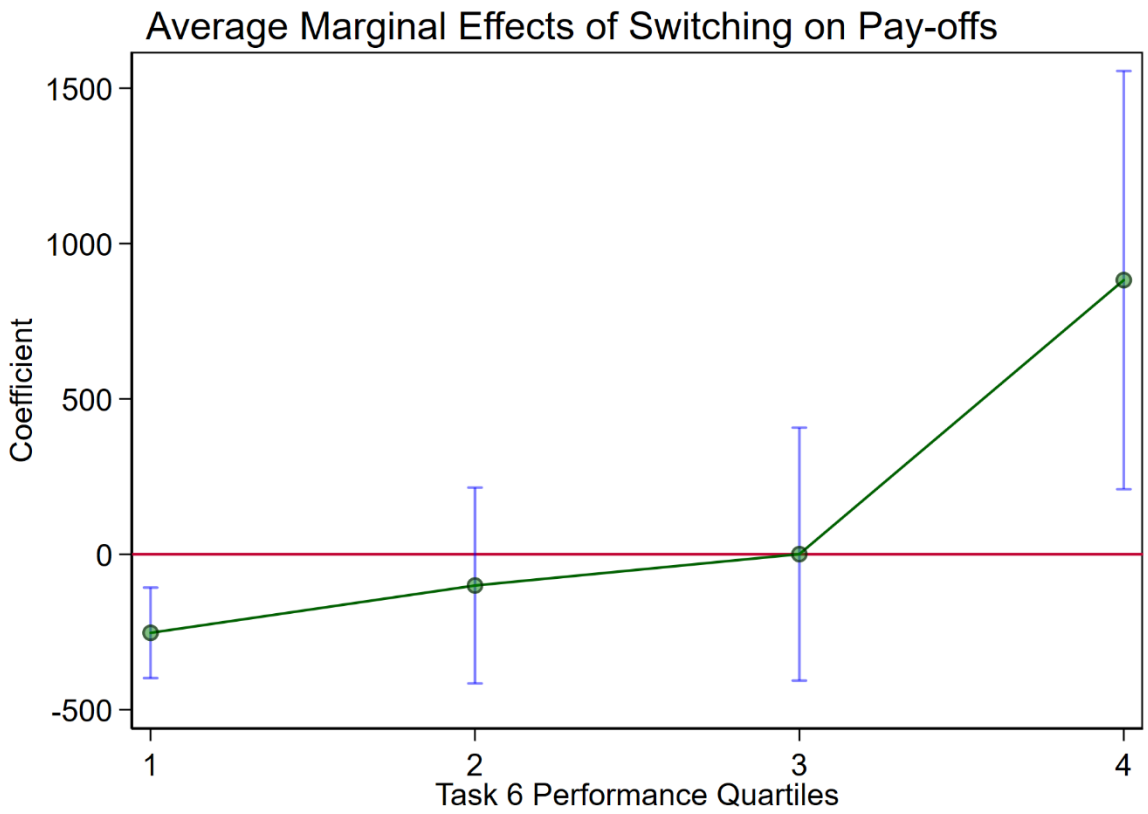
	T6 Payoff		
VARIABLES	(1)	(2)	(3)
P2C	7.751	6.820	12.05
	(102.1)	(102.0)	(104.0)
Task 6 Performance	71.73***	72.47***	79.08***
	(17.47)	(17.59)	(19.81)
Task 6 Pred Rank	27.07	28.66	24.75
	(43.06)	(47.20)	(51.56)
Constant	-120.9	-63.33	813.5
	(121.6)	(159.4)	(987.1)
Observations	129	129	127
Task Performance	Yes	Yes	Yes
Behavioral measures	No	Yes	Yes
Demographic controls	No	No	Yes

The dependent variable: Pay off / Earnings from Task 6. The table reports the coefficients from Linear Regression. Session dummies are included to control for unobservable session heterogeneity. Robust standard errors are reported in parenthesis. Also included but not reported are the task performances for Task 1, 2, 3 and predicted ranks for Task 3. Behavioral measures include measures for risk preference, altruism, and optimism. Demographic controls include age, gender, religion, caste, previous academic records, and work experience. *** p<0.01, ** p<0.05, * p<0.1

Since the payoff function is directly correlated with the performance in Task 6, we further analyse the marginal effects of switching (P2C) by Task 6 score quartiles. We find that for the lowest quartile (scores below 10), there is a significant negative effect (coef = -252.73, p-value = 0.001). While there are no significant effects for the 2nd and 3rd quartiles (scores between 10 and 14, median score 12), for the top quartile of performers (scores 15 and above) switching (P2C) significantly increases their payoffs by INR 882.48 (p-value = 0.010). The marginal effects of switching to competition by task performance are presented in Figure 5.

Thus, the social information conveying lower competitiveness of the participants induces some of the subjects to switch from Rule-25 to Rule-100. From the payoff perspective, this intervention while improving the payoffs for the top performers, is detrimental for the bottom performers. This result is relevant for designing the intervention and identifying the target individuals who could benefit from receiving the social information.

Figure 5. Marginal Effects of Switching (P2C) on Task 6 payoff by Performance Quartiles



The gaps reported are average marginal effects of P2C estimated by interacting the indicator for P2C with the measure for task performance controlling for confidence measures, behavioral measures, and demographic controls. The confidence intervals are reported at 95 percent.

Result 4: The subjects switching from initial piece-rate to competition are similar in terms of task performance compared to subjects who initially choose competition. On average, the switch to competition does not significantly affect the earnings of the subjects. However, switching lowers the earnings of the lowest quartile scorers while improving the earnings of the top quartile.

5. Discussion and Conclusion

In this paper, we have investigated how social information affects competition choice. We inform the subjects about the competition choice of the participant pool and investigate how this information affects the willingness to compete. We provide this information in two forms. In the *Average Treatment*, we inform the subjects about the proportion of participants who chose to compete in the previous round. This information significantly increases the likelihood of choosing to compete controlling for the baseline willingness to compete. We find that this effect is driven mainly by the subjects who learn that the average competitiveness is low (below 40 percent). The heterogeneous effects of social information has implications for gender gaps in competition choice. Women, compared to men, are more likely to compete on learning that the overall competition level is low, which reduces the gender gap compared to the baseline. In the *Random Treatment*, where the subjects are informed about the competition choice of a randomly chosen participant, we do not observe any significant treatment effects. Among the subjects who do not choose competition in the baseline round, we find that the information conveying a low level of competition induces the subjects to switch to competition in the treatment choice round. We observe that the subjects switching to competition are similar in task ability to the subjects choosing competition initially. For the subjects switching from an initial piece-rate (safer) choice to competition (riskier), on average we do not find evidence for their payoffs being negatively affected. However, the switching while increasing the payoffs for the highest quartile of performance, lowers the payoffs of the lowest quartile.

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Appendix:

Table A1. Summary Statistics

Table: Summary Statistics

Variable	Definition	(1) Control Mean	(2) Average Mean	(3) Random Mean	t-test Difference (1)-(2)	t-test Difference (1)-(3)
Demographics						
Age	Age in Years	24.530	24.620	24.486	-0.090	0.044
Female	Proportion of females	0.220	0.245	0.305	-0.025	-0.085
Caste: General	Proportion of General Castes	0.520	0.549	0.552	-0.029	-0.032
Caste: OBC	Proportion of Other Backward Castes	0.280	0.265	0.248	0.015	0.032
Caste: SC/ST	Proportion of Scheduled Castes & Scheduled Tribes	0.180	0.176	0.190	0.004	-0.010
Religion: Hindu	Proportion of Hindus	0.880	0.833	0.914	0.047	-0.034
Married	Proportion Married	0.030	0.029	0.067	0.001	-0.037
Father's Education	Highest Education (1-Primary, 2-Secondary, 3- Class X, 4- Class XII, 5-Graduate, 6- Masters, 7- Above Masters	4.770	4.755	4.962	0.015	-0.192
Mother's Education	Highest Education (1-Primary, 2-Secondary, 3- Class X, 4- Class XII, 5-Graduate, 6- Masters, 7- Above Masters	4.490	4.363	4.667	0.127	-0.177
Engineer by training	Proportion of students with engineering degree	0.830	0.804	0.857	0.026	-0.027
Class 10	School Marks - Class X	93.238	92.915	92.819	0.323	0.420
Class 12	School Marks - Class XII	90.498	90.679	91.253	-0.182	-0.755
CAT	CAT score in Percentiles	95.392	94.498	95.064	0.894	0.329
Work Experience	Proportion of Previously worked Individuals	0.850	0.873	0.867	-0.023	-0.017
Task Related Outcomes						
Task 1	Number of right responses in Piece-Rate Round (Task 1)	9.330	9.039	8.657	0.291	0.673
Task 2	Number of right responses in Tournament Round (Task 2)	10.990	10.765	10.486	0.225	0.504
Task 2 Rank	Rank in group in Tournament Round (Task 2)	2.380	2.480	2.610	-0.100	-0.230
Competition Task 3	Proportion choosing Tournament in Choice Round (Task 3)	0.440	0.343	0.410	0.097	0.030
Task 3	Number of right responses in Choice Round (Task 3)	9.990	9.745	9.829	0.245	0.161
Rank in Task 3	Rank in group in Choice Round (Task 3)	2.370	2.510	2.562	-0.140	-0.192
Competition Task 6	Proportion choosing Tournament in 2nd Choice Round (Task 6)	0.390	0.382	0.410	0.008	-0.020
Task 6	Number of right responses in 2nd Choice Round (Task 6)	12.500	11.951	11.924	0.549	0.576
Rank in Task 6	Rank in group in 2nd Choice Round (Task 6)	2.330	2.490	2.610	-0.160	-0.280*
Same Choice	Proportion making the same payment incentive in Task 3 as well as Task 6	0.850	0.784	0.752	0.230	0.081*
Behavioral measures						

Public Contribution	Proportion choosing to contribute to the Public Good	0.550	0.598	0.590	-0.048	-0.040
Risk Preference	Number of Lottery Choices before switching to a Certain option (0-16)	7.980	8.059	7.790	-0.079	0.190
CRT	Score in Cognitive Reflection Test (0-3)	1.820	1.941	1.752	-0.121	0.068
Risk Taking	Self-reported measure of risk taking (0-10)	5.28	5.081	5.186	0.199	0.094
Time Preference	Time Discount Rate	17.402	16.665	14.237	0.737	3.165
Donate	Amount willing to donate from a lottery winning of 10,000 INR	2551.500	2511.794	2487.619	39.706	63.881
Willingness to share	Self-reported measure of willingness to share with others (0-10)	7.370	6.598	7.095	0.772**	0.275
Trust	Proportion considering that "Most people can be trusted"	0.350	0.382	0.314	-0.032	0.036
Aspired GPA	GPA aspired at the end of the course	3.636	3.648	3.632	-0.012	0.004
Expected GPA	Realistically expected GPA at the end of the course	3.311	3.264	3.311	0.047	0.000
Sample Size		100	102	105		

The value displayed for t-tests are the differences in the means across the groups.

***, **, and * indicate significance at the 1, 5, and 10 percent critical level.

Table A2. Choices at Baseline and End line

Variable	(1) Control Mean/SE	(2) Average Mean/SE	(3) Random Mean/SE	t-test Diff (1)-(2)	t-test Diff (1)-(3)
<u>Conditional on choosing Piece-rate in Task 3 (baseline)</u>					
Sticking to Piece-Rate	0.911	0.806	0.790	0.105	0.120*
	[0.038]	[0.049]	[0.052]		
Switching to Competition	0.089	0.194	0.210	-0.105	-0.120*
	[0.038]	[0.049]	[0.052]		
N	56	67	62		
<u>Conditional on choosing Competition in Task 3</u>					
Sticking to Competition	0.773	0.743	0.698	0.030	0.075
	[0.064]	[0.075]	[0.071]		
Switching to Piece-rate	0.227	0.257	0.302	-0.030	-0.075
	[0.064]	[0.075]	[0.071]		
N	44	35	43		

Table A3. Gaps in Competition choice by Gender

	Task 3 Competition Choice				Task 6 Competition Choice			
VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Female	-0.218***	-0.160***	-0.087	-0.044	-0.142**	-0.091	0.029	0.054
	(0.061)	(0.061)	(0.060)	(0.062)	(0.063)	(0.062)	(0.062)	(0.065)
Task 3 Performance		0.022*	-0.001	0.000		0.014	0.002	-0.001
		(0.012)	(0.012)	(0.012)		(0.014)	(0.012)	(0.013)
Task 3 Pred Rank			-0.248***	-0.258***			-0.119***	-0.094***
			(0.028)	(0.028)			(0.038)	(0.036)
Task 6 Performance						0.040***	0.020*	0.025**
						(0.012)	(0.011)	(0.011)
Task 6 Pred Rank							-0.170***	-0.182***
							(0.042)	(0.042)
Observations	307	307	307	303	307	307	307	303
Task Performance	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Behavioral Measures	No	No	No	Yes	No	No	No	Yes
Demographic controls	No	No	No	Yes	No	No	No	Yes

The dependent variable: Choosing competition (Rule-100) in Task 3 (yes: 1, no: 0) for Columns 1-4. Choosing competition (Rule-100) in Task 6 (yes: 1, no: 0) for Columns 5-8. The table reports the average marginal effects from Probit Regression. Session dummies are included to control for unobservable session heterogeneity. The standard errors are clustered at the session level and reported in parenthesis. In columns 2-4 and 6-8, task performances for Task 1 and 2 are included but not reported. Behavioral measures include measures for risk preference, altruism, and optimism. Demographic controls include age, gender, religion, caste, previous academic records, and work experience. *** p<0.01, ** p<0.05, * p<0.1

Table A4. Heterogeneous Effect of the Average Information by Gender – Results from Linear Probability Regression with Gender and Treatment Information interactions

	(1)	(2)	(3)		(4)	(5)	(6)
VARIABLES	T6 Comp	T6 Comp	T6 Comp	VARIABLES	T6 Comp	T6 Comp	T6 Comp
Avg below 40	0.039	0.061	0.053	Rule 25	0.031	0.066	0.043
	(0.081)	(0.078)	(0.080)		(0.105)	(0.108)	(0.109)
Avg above 40	0.018	0.013	0.006	Rule 100	0.043	0.043	0.043
	(0.084)	(0.083)	(0.086)		(0.085)	(0.081)	(0.080)
Female	-0.011	0.027	0.011	Female	-0.019	-0.002	-0.014
	(0.074)	(0.075)	(0.080)		(0.077)	(0.083)	(0.082)
Female # Avg below 40	0.307*	0.323**	0.340**	Female # Rule 25	0.002	-0.016	-0.023
	(0.162)	(0.155)	(0.165)		(0.167)	(0.175)	(0.177)
Female # Avg above 40	-0.009	-0.009	0.036	Female # Rule 100	0.086	0.118	0.146
	(0.145)	(0.142)	(0.153)		(0.139)	(0.145)	(0.150)
Task 6 Performance	0.008	0.012	0.009	Task 6 Performance	0.011	0.015	0.015
	(0.015)	(0.014)	(0.015)		(0.013)	(0.013)	(0.014)
Task 6 Pred Rank	-0.124**	-0.124***	-0.141***	Task 6 Pred Rank	-0.112**	-0.113**	-0.104*
	(0.048)	(0.044)	(0.046)		(0.051)	(0.052)	(0.055)
Task 3 Choice	0.505***	0.453***	0.461***	Task 3 Choice	0.467***	0.440***	0.474***
	(0.075)	(0.074)	(0.076)		(0.078)	(0.080)	(0.076)
Constant	0.439**	0.318*	-0.038	Constant	0.250	0.129	-2.742**
	(0.176)	(0.187)	(1.133)		(0.166)	(0.211)	(1.253)
Observations	202	202	199	Observations	205	205	204
Task Performance	Yes	Yes	Yes	Task Performance	Yes	Yes	Yes
Behavioral measures	No	Yes	Yes	Behavioral measures	No	Yes	Yes
Demographic controls	No	No	Yes	Demographic controls	No	No	Yes

The dependent variable: Choosing Rule-100 (tournament) in Task 6 (yes: 1, no: 0). The table reports the coefficients from Linear Probability Model. The Average below/above 40 indicates whether the subjects in the *Average Treatment* see the average competition choice in Task 3 as below or above 40. The Rule-100 (or Rule-25) indicates whether the subjects in the *Random Treatment* see the choice of the randomly chosen participant in Task 3 is Rule-100 (or Rule-25). The standard errors are clustered at the session level and reported in parenthesis. Behavioral measures include measures for risk preference, altruism, and optimism. Demographic controls include age, gender, religion, caste, previous academic records, and work experience. *** p<0.01, ** p<0.05, * p<0.1

Table A5. Heterogeneous Effect of the Average Information by Gender – Results from Probit Regression with Gender and Treatment Information interactions

	(1)	(2)	(3)		(4)	(5)	(6)
VARIABLES	T6 Comp	T6 Comp	T6 Comp	VARIABLES	T6 Comp	T6 Comp	T6 Comp
Avg below 40	0.213	0.397	0.485	Rule 25	0.158	0.302	0.103
	(0.367)	(0.375)	(0.418)		(0.392)	(0.386)	(0.418)
Avg above 40	0.219	0.109	0.072	Rule 100	0.215	0.196	0.267
	(0.366)	(0.411)	(0.404)		(0.319)	(0.310)	(0.332)
Female	-0.059	0.080	-0.010	Female	-0.109	-0.050	-0.090
	(0.324)	(0.343)	(0.369)		(0.332)	(0.353)	(0.370)
Female # Avg below 40	1.494**	2.025***	2.127***	Female # Rule 25	0.208	0.076	0.037
	(0.606)	(0.652)	(0.757)		(0.645)	(0.709)	(0.724)
Female # Avg above 40	0.172	0.409	0.745	Female # Rule 100	0.476	0.619	0.644
	(0.590)	(0.644)	(0.652)		(0.540)	(0.580)	(0.624)
Task 6 Performance	0.052	0.097	0.097	Task 6 Performance	0.056	0.077	0.077
	(0.057)	(0.068)	(0.070)		(0.047)	(0.047)	(0.052)
Task 6 Pred Rank	-0.661***	-0.803***	-0.930***	Task 6 Pred Rank	-0.533***	-0.508**	-0.593***
	(0.199)	(0.216)	(0.246)		(0.201)	(0.210)	(0.220)
Task 3 Choice	1.558***	1.477***	1.586***	Task 3 Choice	1.369***	1.305***	1.577***
	(0.265)	(0.273)	(0.311)		(0.248)	(0.249)	(0.267)
Constant	0.037	0.048	0.312	Constant	-0.506	-0.913	-13.999***
	(0.789)	(0.996)	(4.381)		(0.721)	(0.884)	(4.707)
Observations	202	202	199	Observations	205	205	204
Task Performance	Yes	Yes	Yes	Task Performance	Yes	Yes	Yes
Behavioral measures	No	Yes	Yes	Behavioral measures	No	Yes	Yes
Demographic controls	No	No	Yes	Demographic controls	No	No	Yes

The dependent variable: Choosing Rule-100 (tournament) in Task 6 (yes: 1, no: 0). The table reports the coefficients from Probit Model. The Average below/above 40 indicates whether the subjects in the *Average Treatment* see the average competition choice in Task 3 as below or above 40. The Rule-100 (or Rule-25) indicates whether the subjects in the *Random Treatment* see the choice of the randomly chosen participant in Task 3 is Rule-100 (or Rule-25). The standard errors are clustered at the session level and reported in parenthesis. Behavioral measures include measures for risk preference, altruism, and optimism. Demographic controls include age, gender, religion, caste, previous academic records, and work experience. *** p<0.01, ** p<0.05, * p<0.1

Table A6. Treatment Effect on Switching from Piece-rate in Task 3 to Competition in Task 6

	Average Treatment			*Random Treatment*		
	Switching from Piece-rate to Competition					
VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
Average Treatment	0.117**	0.116**	0.117**			
	(0.056)	(0.049)	(0.052)			
Random Treatment				0.120**	0.141**	0.194***
				(0.060)	(0.061)	(0.053)
Task 6 Performance	-0.009	-0.001	-0.005	0.006	0.012	0.014
	(0.016)	(0.016)	(0.016)	(0.014)	(0.013)	(0.013)
Task 6 Predicted Rank	-0.102*	-0.094**	-0.120***	-0.079	-0.063	-0.034
	(0.055)	(0.048)	(0.043)	(0.060)	(0.056)	(0.045)
Observations	123	123	104	118	118	117
Task Performance	Yes	Yes	Yes	Yes	Yes	Yes
Behavioral measures	No	Yes	Yes	No	Yes	Yes
Demographic controls	No	No	Yes	No	No	Yes

The dependent variable: Choosing Rule-100 (tournament) in Task 6 (yes: 1, no: 0). The table reports the average marginal effects from Probit Regression. Session dummies are included to control for unobservable session heterogeneity. The standard errors are clustered at the session level and reported in parenthesis. Behavioral measures include measures for risk preference, altruism, and optimism. Demographic controls include age, gender, religion, caste, previous academic records, and work experience. *** p<0.01, ** p<0.05, * p<0.1

Table A7. Treatment Effect on Switching from Tournament in Task 3 to Piece-rate in Task 6

	Average Treatment		*Random Treatment*	
	Switching from Competition to Piece-rate			
VARIABLES	(1)	(2)	(3)	(4)
Average Treatment	-0.093	-0.031		
	(0.068)	(0.076)		
Random Treatment			0.050	0.046
			(0.081)	(0.086)
Task 6 Performance	-0.044***	-0.087***	-0.027	-0.029*
	(0.016)	(0.029)	(0.017)	(0.015)
Task 6 Predicted Rank	0.144***	0.214***	0.178**	0.161**
	(0.048)	(0.047)	(0.070)	(0.064)
Observations	79	79	87	87
Task Performance	Yes	Yes	Yes	Yes
Behavioral measures	No	Yes	No	Yes
Demographic controls	No	No	No	No

The dependent variable: Choosing Rule-100 (tournament) in Task 6 (yes: 1, no: 0). The table reports the average marginal effects from Probit Regression. Session dummies are included to control for unobservable session heterogeneity. The standard errors are clustered at the session level and reported in parenthesis. Behavioral measures include measures for risk preference, altruism, and optimism. Demographic controls include age, gender, religion, caste, previous academic records, and work experience. *** p<0.01, ** p<0.05, * p<0.1

Table A8. Comparison of Task Performance between Switchers and Initial Competers

Variable	Initial Competer (1) Mean/SE	Switched P2C (2) Mean/SE	t-test Diff (1)-(2)	t-test P-value (1)-(2)
Performance in Task 1.1	9.484	9.548	-0.065	0.927
	[0.335]	[0.461]		
Performance in Task 1.2	11.574	11.032	0.542	0.342
	[0.269]	[0.384]		
Performance in Task 3	10.811	9.677	1.134	0.115
	[0.329]	[0.585]		
Mean Performance (Task 1.1-1.3)	10.623	10.086	0.537	0.369
	[0.283]	[0.391]		
Performance in Task 6	13.434	12.129	1.305*	0.091*
	[0.367]	[0.475]		
Absolute Self-Confidence	0.307	-0.040	0.348	0.530
	[0.251]	[0.476]		
Relative Self-Confidence	0.710	0.516	0.194	0.281
	[0.080]	[0.169]		
Sample Size	122	31		