Self-selection and peer-effects in experimental labor markets

by

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DEDICATION

I would like to dedicate this thesis to my parents and to Subhomoy Ghosh without whose support I would not have been able to complete this work. I would also like to thank my friends and family for their loving guidance and support.

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CHAPTER 1.   INTRODUCTION

In my dissertation, I use experimental methods to study the otherwise unobservable labor market interactions, social norms and peer-effects in non-cognitive skills acquisition.

In my first Chapter, I use experimental methods to better understand behavioral roots of corruption. Corruption is endemic to most developing countries. Most of the recent research in economics has focused on documenting the existence of corruption, measuring its economic impact and designing effective mechanisms to reduce incentives for bureaucrats to engage in corruption. Anecdotal evidence often suggests that improving the internal workings of bureaucracies is insufficient, unless corrupt officials are permanently replaced. It might be the case that people with a lower personal cost of engaging in unethical behavior choose to become bureaucrats because they are relatively more efficient at corruption. As a result, we might find a higher number of dishonest people opting for public sector jobs. If this were the case, corruption might be hard to fight, since corrupt institutions will attract more corrupt employees. In my dissertation I explore this self-selection of more corruptible individuals into public sector. Using a laboratory experiment, I answer the question of whether or not labor market sorting in the preference between public and private sector can be explained in part by propensity to engage in unethical behavior.

It is hard to get observational individual-level data on corruption because it is secretive in nature. Testing my self-selection hypothesis is particularly challenging because propensity to engage in unethical behavior is typically not measured in observational or survey data. Moreover, data on bureaucrats and politicians before they joined the civil service or became public officials is typically not available. Also, economic policies that are often designed to attract a better pool of bureaucrats, include increasing wages. It is difficult to separate selection based on propensity to engage in unethical behavior from the selection effects of increased

monetary incentives. Therefore, I choose experimental methods to study my research question.

In Chapter 1, I provide experimental evidence of the sorting effect into the public and private sector. I conducted this experiment (from hereby called Experiment 1) at one of the largest public universities and a premier management institute in India. From these two institutes, I recruited a cross-section of students. I created a firm-like environment in the laboratory and divided subjects randomly into "workers" and "supervisors." Subjects played a game that measured the propensity of supervisors to engage in unethical behavior. I then linked the propensity to engage in unethical behavior to future career choice. Related deception experiments in economics and psychology suggest that not all people engage in dishonest behavior. Therefore, I treat the willingness to engage in unethical behavior as an agent's preference characteristic.

The findings of this study suggest that both public sector and private sector aspirants are equally likely to cheat. In fact, 64 percent of the private sector aspirants and 70 percent of the public sector aspirants cheat. While there is no statistical difference in the proportion of cheaters in the two sectors, the amount of cheating in the two sectors is significantly different. Public sector aspirants cheat 51.5 percent more than private sector aspirants. Since the choice of sector comes from a survey question and is not measured through the experimental design and I also treat subjects' propensity to engage in unethical behavior as a preference characteristic, these experimental data provide evidence of sorting based on propensity to engage in unethical behavior.

While in Chapter 1 I address individual unethical behavior, in Chapter 2, I study group behavior, specifically social norms regarding bribe-giving and bribe-taking in India, using a novel experimental method introduced by Krupka and Weber (2008). Economists have emphasized the strong effect of social norms and legal enforcement on corruption. However, social norms are difficult to measure. Social scientists commonly use surveys to measure norms. There are pros and cons to using a survey. First, surveys are non-incentive compatible. Second, because corruption is a sensitive issue, the norms measured by a survey might be biased and not reflect participants' truthful response.

For Chapter 2, I used a unique experimental method to measure the social norms regarding bribe-giving and bribe-taking in India for a common corrupt situation (i.e., obtaining a driver's

license in India). The subjects of this experiment were the "workers" who participated in Experiment 1. After Experiment 1, the workers were asked to elicit the social norms regarding bribe-giving and bribe-taking in India. In this norm experiment, we asked subjects to provide social acceptability ratings for five situations related to bribe-taking and bribe-giving encountered by a driver's license applicant in India. Subjects were provided with incentives to match their rating with the ratings of others. The subjects were required to think how others would respond, and not about their own preferences. This followed a coordination game related to the "shared understanding" of social norms.

Situation 1 depicts a driver's license applicant who fails the driving test and the public official who asks him to pay a bribe to obtain the license. The subjects rated the actions of the officer asking for a bribe and also the conditional actions of the citizen accepting or rejecting the officer's bribe request. There were four actions: low, medium, and high bribe amounts and honest action of the officer.

Situation 2 is framed from the perspective of the applicant. The driver's license applicant fails the driving test and offers a bribe to the public official to obtain the license. Situation 3 describes the exact situation the subjects encountered in Experiment 1. Here I obtained appropriateness ratings of the actions that the subjects encountered in Experiment 1. Situations 4 and 5 are similar to Situations 1 and 2 with one exception. To set reference points for the subjects, I provided the additional information that most officers at the drivers' license office ask for a side payment if the applicant fails the driving test.

This is the first experimental study that quantifies the social norms regarding bribe-giving and bribe-taking in India for a common corrupt situation. I found that social acceptability ratings are malleable to the amounts of bribes. Subjects are not able to coordinate on the socially acceptability ratings for lower amount of bribes. However, the higher bribe amounts are rated as socially inappropriate by the majority. In the socially acceptable treatment i.e. Situations 4 and 5, the social acceptability ratings of bribe giving and bribe taking were lower than in Situations 1 and 2. I found that bribe giving is more socially unacceptable than bribe taking in Situations 4 and 5. However, this difference is not significant in Situations 1 and 2.

I also addressed a methodological concern arising from the experimental method used to

measure the social norms regarding corruption for a particular situation (i.e., obtaining a driver's license in India). The participants of the norm experiment were the "workers" in Experiment 1. They participated in the unethical behavior experiment before eliciting the social norms. One criticism of this subject pool is that their views might have been biased. To address this concern, we conducted the norm experiment on a separate pool whose only role was to elicit the social norms. There was no difference in the description of vignettes and experimental procedures between the two subject pools. I found no difference in the norms elicitation between the two subject pools.

For Chapters 1 and 2, I conducted my own experiments in India. For Chapter 3, I used the experimental data of Leider et al. (2009) to study the effects of social networks on non-cognitive skills, particularly self-confidence regarding one's ability. Recent research in psychology and economics has emphasized the importance of non-cognitive skills on labor market outcomes. We used economic experiments to measure participants' beliefs about their expected relative performance in a real-effort task using an incentive-compatible mechanism for belief elicitation. We then combined these self-confidence measures with a unique dataset on the social network of the participants to investigate whether there are peer effects in confidence.

We found that more confident participants tend to have more confident friends. Peer effects might be an important transmission mechanism for acquisition of self-confidence. We then divided our subjects into years at college and explored whether our finding was due to selection (confident participants choose confident friends) or social interaction (one's confidence is influenced by friends' confidence). We found that the results are significant for seniors and juniors. However, to separate the treatment effect from the selection effect, we need to carefully design a longitudinal study where we follow a cohort of students through years at college. Therefore, this cross-sectional experimental data provide preliminary evidence of the treatment effect in peer effects.

My dissertation research contributes to the literature in labor economics and experimental economics. To summarize, in the first chapter, I highlight the evidence of sorting based on propensity to engage in unethical behavior by public and private sector aspirants. The second chapter highlights the importance of social norms in corruption. In the third chapter, I study

peer effects in non-cognitive skills. The findings of my first chapter provide evidence of self-selection into the public vs. private sector based on propensity to engage in unethical behavior. A caveat of this study is that the subjects were university students who were yet to join the public or private sector. In my future research, I want to track the subjects and collect data on their real-life career choices. Findings of my second chapter suggest that when corruption is prominent, government policy should be targeted toward changing the social norms around corruption. Stronger legal enforcement of rules can help change the perception of corruption. My experimental design is not sufficient to separate the exact channel which leads to a higher mean rating for the social acceptability of bribe-giving and bribe-taking under socially acceptable treatment. In my future research, I want to separate the effects of these channels. The findings of the third chapter provide evidence of peer effects in acquiring non-cognitive skills. I am now conducting a longitudinal experiment at the Indian Institute of Management, where I am following a cohort of management students for two years. This experiment will help us segregate the selection and treatment effect of peer effects not only in non-cognitive skills but also in other-regarding preferences and competitive preferences.

CHAPTER 2.   DOES UNETHICAL BEHAVIOR AFFECT CHOICE OF PROFESSION: PUBLIC VS. PRIVATE?

I studied worker self-selection into a corrupt workplace environment using a laboratory experiment with university students in India who were either private sector job aspirants or public sector aspirants (wanting to join the Indian bureaucracy). I investigated whether ones propensity to engage in unethical behavior can explain the career choice between the public and private sector. I divided the subjects into two groups: workers and supervisors. The workers performed in a real-effort task and the supervisors evaluated their work and sent them their earnings in tokens, which is a medium of exchange in laboratories. The supervisors had to claim the required number of tokens needed to pay the workers. The measure of cheating that we used in our experiment was the difference between the number of tokens claimed by the supervisors and the number of tokens sent to the workers. Among the subjects, 64.5 percent engaged in unethical behavior. I then linked this cheating behavior to their future career choice. I found a significant difference in cheating behavior between public sector and private sector aspirants. Sixty-four percent of the private sector aspirants vs. 70 percent of the public sector aspirants engaged in unethical behavior. The proportion of public sector aspirants who engaged in unethical behavior was not statistically significantly different from that of private sector aspirants. However, the amount of cheating among public sector aspirants was significantly greater than among private sector aspirants. Public sector aspirants cheated 51.5 percent more than those planning to pursue careers in the private sector.

2.1 INTRODUCTION

Corruption has roots in most developing countries and carries enormous welfare costs (Olken and Pande, 2011). Research in economics has primarily focused on measuring corruption (Niehaus and Sukhtankar, 2011), the impact of corruption (Di Tella and Schargrodsky, 2003), and how to design effective mechanisms to reduce incentives for bureaucrats to engage in corruption (Reinikka and Svensson, 2004; Olken, 2007). Laboratory experiments have also been used to study corruption and how dishonest individuals respond to different incentives (Serra and Wantchekon, 2012). However, anecdotal evidence often suggests that improving the internal workings of bureaucracies is insufficient unless corrupt officials are permanently replaced. The former Soviet Republic of Georgia provides an interesting case study. According to corruption watchdog Transparency International, it ranked 64th among 183 countries in terms of corruption perceptions in 2011, lower than many European Union countries. Remarkably, perceived corruption in Georgia is far lower than in all neighboring former Soviet republics, including Armenia (rank 129) and Russia and Azerbaijan (tied at rank 143). The Georgian government started to tackle corruption in 2004 by increasing salaries for police officers and other civil servants and incarcerating corrupt officials. At the same time, about 85 percent of road police officers (thought to be particularly corrupt) were fired and replaced with new recruits (Transparency International, 2011). The example of Georgia suggests that successful anti-corruption initiatives must include mechanisms that attract honest agents.

Olken, 2012 suggested that self-selection into the public sector based on propensity for corruption might lead to multiple equilibria. In a corrupt equilibrium people with lower cost of engaging in corrupt behavior choose to become bureaucrats because they are relatively more efficient at corruption. As a consequence, we might find a higher number of dishonest people opting for public sector jobs. Therefore, corruption may be difficult to fight since in a corrupt system we find the self-selection of dishonest bureaucrats.

One of the few empirical papers that has examined the interaction between changes in a bureaucracys culture and sorting is Ferraz and Finan, 2010. They found that greater public monitoring of federal funds attracts better politicians in Brazil. However, observational studies

have limitations. First, it is difficult to collect data on bureaucrats and politicians before they joined the civil service or became public officials. Moreover, many policies designed to attract a better pool of applicants (e.g., by offering higher wages) also give rise to career concerns. This makes it difficult to separate selection from the effects of increased incentives. Alatas et al., 2009, through an experimental study, found that Indonesian public servants are substantially less likely to engage in corrupt behavior than Indonesian students. To separate the selection effect, they compared the behavior of the students who aspired to work in the public sector with the rest of the students. They found no significant difference in behavior between the two groups.

A growing body of literature in experimental economics addresses the interaction between workplace culture and worker selection. Workers are attracted to different firms depending on their type. Dohmen and Falk, 2011 showed that compensation schemes induce the sorting of workers by productivity, degree of risk aversion, extent of self-confidence, and concern for behaving altruistically. Niederle and Vesterlund, 2007 found that women are less likely than men to enter tournaments when offered a choice between tournaments and piece rates. Banuri and Keefer, 2012 found that more pro-social subjects enter the public sector than the private sector in Indonesia. Serra et al., 2011, through a survey as well as experimental measures of health professionals, found that altruistic health workers are more likely to work in non-profit organizations and earn lower wages. Their findings suggest that "intrinsic motivations" matter in the choice of profession. I merged these two strands of literature on corruption and labor market sorting in a laboratory experiment to study whether labor market sorting in the choice between public and private sector can be explained in part by unethical behavior.

In this paper, I provide experimental evidence of the sorting effect in the public vs. private sector. Corruption exists in different forms. Shleifer and Vishny, 1993 made a crucial distinction between two types of corruption: petty corruption which does not involve theft of government resources and embezzlement which involves direct theft of government resources. Usually, the beneficiaries of these public entitlements are the poorer sections of the population and any draining of public resources causes a far higher welfare reduction than petty corruption does. I chose to study embezzlement in this experimental study. I followed Villeval (2011) and

replicated a situation similar to a typical bureaucratic encounter in an MNREGA program, where bureaucrats often apply rules in a dishonest way to extract payments from poor workers (i.e., direct theft of government resources by the public officials).[1]

I conducted this experiment at one of the largest public universities and a premier management institute in India. The subjects were a cross-section of students who wanted to join either the private or the public sector from these two institutes. Subjects were asked to play a game that measured their propensity to engage in unethical behavior. Finally, the propensity to engage in unethical behavior was linked to their future career choice. Related deception experiments in economics and psychology suggest that not all people engage in dishonest behavior (Mazar and Ariely, 2006). Therefore, I chose to treat the willingness to engage in unethical behavior as part of an agent type, similar to well-established traits such as altruism (Andreoni and Miller, 2001). I also conducted a sequence of diagnostic games to measure taste for competition (Niederle and Vesterlund, 2007) and altruism. Since civil servants enjoy relative job security and might be motivated toward public service, we expected sorting along these dimensions as well. This allowed us to compare the strength of sorting by dishonesty with sorting along other dimensions.

The focus of economics and psychological experimental literature on unethical behavior has been primarily to study dishonest behavior as a treatment effect (Gneezy, 2005; Fiscbacher and Heusi, 2008; Mazar and Ariely, 2006) for a group of individuals. I have built on this rich experimental literature on laboratory experiments on unethical behavior. I measured individual dishonest behavior through this experiment. Though it is difficult to measure individual unethical behavior in a laboratory environment due to the experimenter demand effect, I argue that the unethical behavior we found in our laboratory experiment is the minimum bound.

The findings of this study suggest that both public sector and private sector aspirants are equally likely to cheat. Sixty-four percent of the private sector aspirants and 70 percent of the public sector aspirants cheated. There was no statistical difference in the proportion of

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[1]MNREGA, a government program in India that guarantees 100 days of compulsory work a year to 900 million people at the cost of 3.6 percent of annual government spending, has been widely criticized for massive leakage of funds. Anecdotal evidence abounds about how fake identities are created in thousands and entitlements siphoned. Niehaus and Sukhtankar (2012) found that none of the statutory wage increase is passed on to workers in an MNREGA program, implying a marginal leakage of 100 percent.

cheaters in the two sectors. However, the amount of cheating in the two sectors was significantly different. The public sector aspirants cheated 51.5 percent more than private sector aspirants. There was also evidence of sorting along other dimensions. Caste was an important determinant of future career preferences. Lower caste subjects were more likely to aspire to public sector jobs than higher caste subjects. Expectations about future salary also affected career preferences. Subjects who had lower salary expectations were more likely to prefer the public sector than the private sector. However, the amount of cheating was still a significant determinant of career choice after controlling for cognitive ability, gender, caste, social preferences (e.g., donations to charity), and competitive preferences (e.g., incentive choice scheme, income of the family, expectations about future income).

The rest of the paper is structured as follows. Section 2 details the experimental design and procedure. Section 3 provides the data description; section 4 examines the summary statistics and explores the potential determinants for the choice of sector. Section 5 summarizes the results and concludes by offering an interpretation of the results. In Section 6, we provide the conclusion and discuss policy implications.

2.2 EXPERIMENTAL DESIGN

I designed a game following Villeval (2011) to measure individual dishonesty and then linked this individual unethical behavior to the choice of career: private vs. public. The subjects were divided into two equal groups: workers and supervisors. The workers and supervisors were seated in two separate rooms. This was an anonymous experiment and the two groups never met. Identity numbers were randomly assigned to each worker and supervisor at the beginning of the experiment. Each worker was matched randomly with a supervisor. This random match was determined prior to the experiment. Tokens were used as a medium of exchange and were converted to rupees (Indian currency) at the end of the experiment.

Workers were asked to perform in a real-effort task. Each worker was provided with a booklet of 20 simple addition problems (Mazar et al., 2008). Each problem consisted of a 4 X 3 box. Each cell in the box consisted of a two-decimal place number. The workers task was to find a pair of numbers in each box that added to 10. Only one pair of numbers added to 10 in

each box. The workers had 10 minutes to complete this task. After 10 minutes, the booklet was collected and distributed to the corresponding matched supervisor in the other room. After the task, the workers were informed that their booklets would be graded by a supervisor seated in the adjacent room and their earnings depended on the number of tokens that the supervisor sent. They were also informed that the match was randomly assigned by the experimenter prior to the experiment session. This information was provided to the workers after they performed in the task to align the incentives and their motivation to perform in the task. The workers were also informed that the supervisors could choose among five different honest and dishonest actions to pay the worker based on the supervisors preference.

The supervisors role was to grade the workers booklet. An answer sheet containing the correct answers was provided to the supervisors. The supervisors task was to grade the booklet by checking the workers answers against the answer sheet. The supervisor was paid 100 tokens for grading the booklet. Along with the workers booklet, the supervisor was given an envelope with the workers ID written at the top. For each correct answer, the worker received 50 tokens. A cashier seated outside the supervisors room distributed paper bills to the supervisor to pay the worker. Each paper bill represented 50 tokens. The supervisor had to request the total number of paper bills (equivalent to tokens) needed to pay the worker from the cashier. After grading the workers booklet, the supervisor was instructed to throw the booklet in the basket near the door and go to the cash counter outside the room to collect tokens from the cashier. The supervisors were asked to throw the booklet in the basket to ensure that their verbal report was the only determinant of the workers payment. However, after the experiment, we used the booklet to measure the true productivity of the workers. I did not reveal this information to the subjects so as to create an unsupervised environment.[2] At the cash counter, the supervisor was supposed to ask for payment (i.e., 100 tokens) and the number of tokens that the supervisor needed to pay the worker. This entire process was not monitored by the experimenter.

At the cash counter, the cashier noted the number of tokens that the supervisor requested. The supervisor received 100 tokens as his or her fixed wage for this task. Any tokens greater than 100 constituted the supervisors claim for the workers payment. The supervisor could

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[2]I used deception only to create an unsupervised environment.

pursue any one of the following actions:

1. He could over-report to the cashier (i.e., claim more tokens than needed) and pay less to the worker (i.e., put fewer tokens in the workers envelope than the worker deserved).

2. He could over-report to the cashier (i.e., claim more tokens than needed) and be truthful with the worker (i.e., put the exact number of tokens in the envelope that the worker deserved).

3. He could be truthful with the cashier (i.e., claim the exact number of tokens needed) and pay less to the worker (i.e., put fewer tokens in the workers envelope than the worker deserved).

4. He could over-report to the cashier (i.e., claim more tokens than needed) and pay more to the worker (i.e., put more tokens in the workers envelope than the worker deserved).

5. He could be truthful with the cashier (i.e., claim the exact number of tokens needed) and be truthful with the worker (i.e., put the exact number of tokens in the envelope that the worker deserved).

After the supervisor collected the tokens from the cashier, he returned to his seat. The supervisor then privately put the number of tokens that he wanted to send to the worker in the envelope provided. Finally, the experimenter collected all the envelopes and sent them to the room where the workers were seated. Any communication between the subjects was strictly prohibited.

After this game, the subjects participated in a modified dictator game (Eckel and Grossman, 1995), which measured the distributional preferences of the supervisors. Each supervisor was given 500 tokens. The supervisor could donate any amount, including zero, to a charity. A list of five charitable organizations was provided to them. Along with their donation amount, the subjects were also asked to choose any one of the charity organizations where they wanted to send their donations. [3] Next, the subjects performed in a real-effort task for two minutes.

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[3] After the experiment, the experimenter donated the total amount of donations collected from all the subjects to these organizations.

The task involved finding the sum of three-digit numbers. They chose the incentive scheme they preferred before they performed in the task. Choice among three incentive schemes (i.e., fixed wage, tournament wage scheme, piece rate) was provided . After the task, they were paid using the incentive scheme they chose (Dohmen and Falk, 2011). The subjects also answered a survey questionnaire in which they were asked to list their demographic information, career choices, family income, expectations regarding future salary, student political affiliation, and personal and societal perception regarding the prevalence of corruption and bribery.

The subjects were not paid for both the dictator and the incentive scheme choice games. At the end of the experiment, one game was randomly picked to determine their payment. However, the subjects were paid for the first game because that was the primary game to detect unethical behavior. At the time of payment (i.e., redeeming the tokens for cash), the subjects were asked to hand the tokens of the unethical game and the randomly picked game together to the cashier. Therefore, at the time of payment, the experimenter could not distinguish between the tokens of the unethical game and the other game [4]

After the envelopes were collected from the supervisors, they were distributed to the respective workers. The identity number of the worker was written at the top of the envelope. This helped in distributing the envelope to the correct match. After each worker received the envelope, the cashier redeemed the workers tokens for cash. The cashier was asked to note the identity number of the worker and the number of tokens he redeemed. After the experiment, we compared the two numbers noted by the cashier. Any mismatch between these two numbers (i.e., the number of tokens claimed by the supervisor and sent to the worker and the number of tokens redeemed by the worker) denoted whether the supervisor behaved unethically and also the amount of cheating. This was the measure of cheating in our study.

The second part of the experiment on elicitation of social norms regarding bribe giving and bribe taking in India was conducted while the workers were waiting to receive payment from the supervisor. I discuss this experiment in Chapter 2.

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[4]We collected the instruction sheets of the subjects where they have mentioned the number of tokens sent to charity, the charitable organisation and the incentive scheme, and performance in the addition task. Only the identity number is mentioned on top of the instruction sheet which is used for data entry. However, the true identity of the subjects cannot be identified.
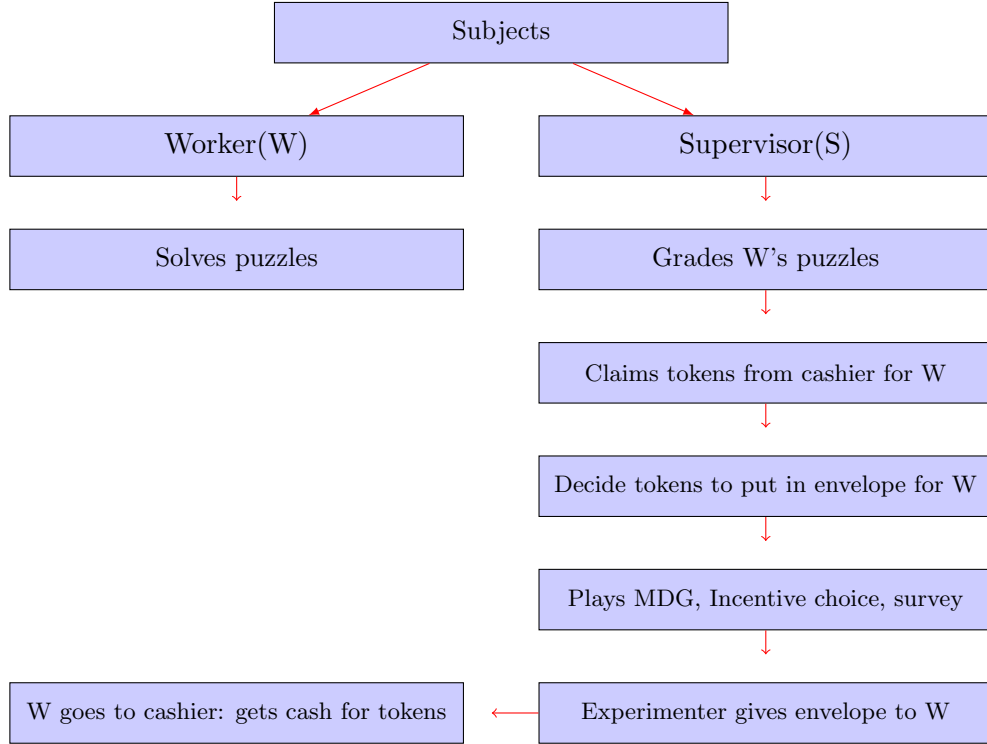
Figure 2.1   *Experimental design of the unethical game*

2.3   DATA DESCRIPTION

I recruited subjects from a large public university and a business school in India through posters posted at prominent locations on campus. The public university attracts students from all across India and offers a wide range of majors and degrees, including bachelors and graduate-level programs. The management school admits students after they pass an all-India-level entrance exam, which is similar to the GMAT exam.

To join the Indian government administrative service at the highest level, aspiring applicants must take a highly competitive three-level national examination called the Union Public Service Commission (UPSC) Examination. Each year roughly 400,000 to 500,000 students appear for the preliminary level of the UPSC exam. Roughly 2 percent are invited for the second level, the main exam. Finally, only 0.4 percent manage an interview, out of which 700 to 800 students are finally selected; this translates into a success rate of 0.25 percent to 0.3 percent. An aspiring candidate can make four attempts to clear the exam. Once a candidate clears this examination, he or she can choose from a number of services, such as the Indian Foreign Service (IFS), Indian

Administrative Service (IAS), Indian Police Service (IPS), Indian Postal Service, and Indian Revenue Service (IRS), among others, depending on performance on the examination.

The large public university is a hub for UPSC aspirants. Our public sector aspirants constituted students from this large public university who were preparing for the UPSC exam. For the private sector aspirants, our subject pool primarily consisted of students who were pursuing business degrees at a premier management school in New Delhi. The institute trains students in management and offers a masters degree in business administration in marketing, finance, and human resources.

Ninety subjects participated in the experiment from the public university and 58 from the management school. Three rounds were held at the public university and one at the management school. All rounds were run as non-computerized experiments and the same procedures were followed. Each subject received the relevant set of instructions. The experimenters also read the instructions aloud to the subjects. In this experimental design, only the dishonest behavior of the supervisors was captured. Therefore, the focus was on the unethical behavior of the supervisors and their career choice. For the data analysis, only the behavior of the supervisor was analyzed. Of the 148 subjects, 74 were randomly assigned the role of supervisor.

Some of the survey questions that the subjects answered at the end of the experiment were related to career choices: Would you like to join the public sector or private sector? Are you preparing for the civil service examination? How many times have you appeared for the civil service exam? I used the survey question about joining the public or private sector to identify whether the subject was a public or private sector aspirant. Of the 74 supervisors, 41 were public sector aspirants and 33 were private sector aspirants. Of the 41 subjects, 21 were preparing for the UPSC exam and 20 had taken it at least once. The choice of school was also a strong indicator of their aspiration to join the public vs. private sector. Subjects who wanted to pursue their career in the private sector benefitted by pursuing a degree in management.

Female subjects formed 38 percent of the overall sample, while males accounted for 62 percent. 29 percent of the public sector aspirants were female and 70 percent were male. Among the private sector aspirants, 48 percent were female and 51 percent male. Twenty-nine percent were lower caste vs. 71 percent higher caste.

2.4   RESULTS

2.4.1   SUMMARY STATISTICS

Table2.1 lists the number of cases under each of the strategies of the supervisor mentioned in section 2. I measured the number of tokens that the supervisors over-reported to the cashier and also the number of tokens that the supervisors sent to the workers. I collected the booklets of the workers after each session of the experiment and calculated the workers true performance. The difference between the workers true performance and the number of tokens claimed from the cashier was the amount of over-report by the supervisors. The difference between the true performance of the workers and number of tokens sent to the workers was the amount of under-report by the supervisors. [5]

Strategy	Number of cases
He could over-report and pay less to the worker	21
He could over-report and be truthful about the workers performance	11
He could be truthful and pay less to the worker	12
He could over-report and pay more to the worker	6
He could be truthful and be truthful about the workers performance	20

Table 2.1   *Frequencies of strategies of supervisors in unethical game*

In this experimental design, unethical behavior was determined by observing whether there was a discrepancy in the number of tokens requested from the cashier and the number of tokens put in the workers envelope. An honest supervisor would ask for the exact number of tokens. In this sample, 64.5 percent of subjects behaved unethically. Out of this, 64 percent of the private sector versus 70 percent of the public sector aspirants displayed unethical behavior. However, this difference was not statistically significant (p-value = 0.62).

Next, I compared the amount of cheating between public and private sector aspirants. The amount of cheating was measured by the difference between the number of tokens claimed from the cashier and the number of tokens put in the workers envelope. The mean amount of cheating among the private sector aspirants was 5.14 tokens, whereas the mean amount of

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[5]Four subjects asked the cashier for fewer tokens and also sent fewer tokens to the workers. This was a mistake on the part of the subjects in grading the workers booklets . However, supervisors did send fewer tokens to the workers and therefore behaved unethically in this experiment.

cheating among the public sector aspirants was 10.6. The public sector aspirants significantly cheated more than the private sector aspirants (p-value = 0.004). I suggest that the p-value of the Wilcoxon sum-rank test as the amount of cheating is not normally distributed. Figure2.2 shows the distribution of the amount of cheating among the public and private sector aspirants. The findings suggest that the public sector aspirant is as likely to cheat as the private sector aspirant, but on average public sector aspirants cheat significantly more than private sector aspirants.
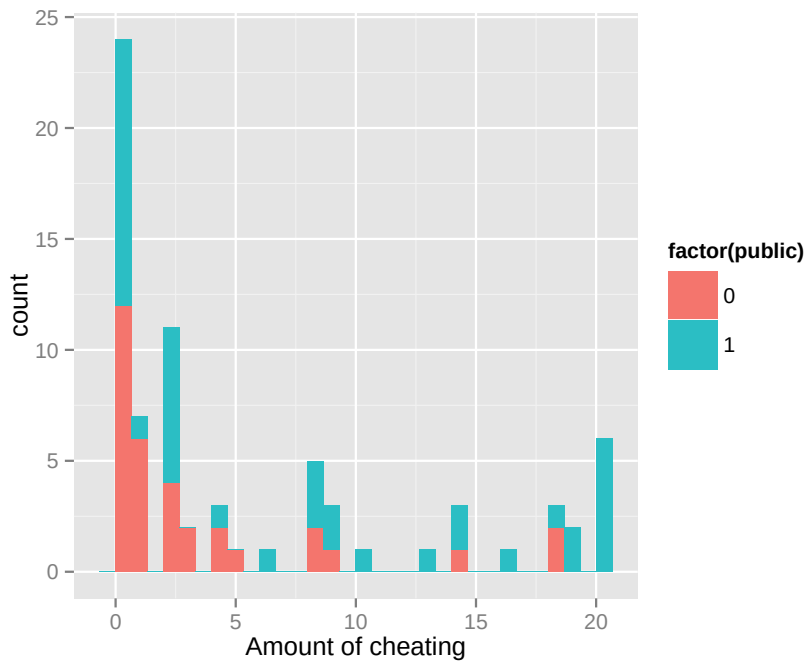
Figure 2.2   *Distribution of the amount of cheating of public and private sector aspirants*

There was no significant difference in the career aspirations to join the public sector vs. the private sector in terms of gender (p-value = 0.15). I also found a conditional probability of cheating based on gender. Also, there was a significant difference in the proportion of cheaters between the public and private sector aspirants. In addition, the association changed direction; that is, in the public sector aspirants, we had more female cheaters than in the private sector aspirants (p-value=0.009), whereas in the private sector we had more male cheaters than in public sector aspirants (p-value = 0.023). However, since our sample size was small, we are not able to draw any conclusion apart from stating this observation.

In this experiment, I employed a crude measurement of the cognitive skill of the subjects. The subjects were asked to participate in a two-minute addition task. I used their performance on this task as a measure of their cognitive skill. Figure2.3 shows the distribution of the performance[6] in the addition task among the public and private sector aspirants. The mean performance of the private sector aspirant was 19.5 while that of the public sector was 16.3 (p-value = 0.005). This is the p-value of a one-sided Wilcoxon rank-sum test. I found a significant difference in performance between public and private sector aspirants.
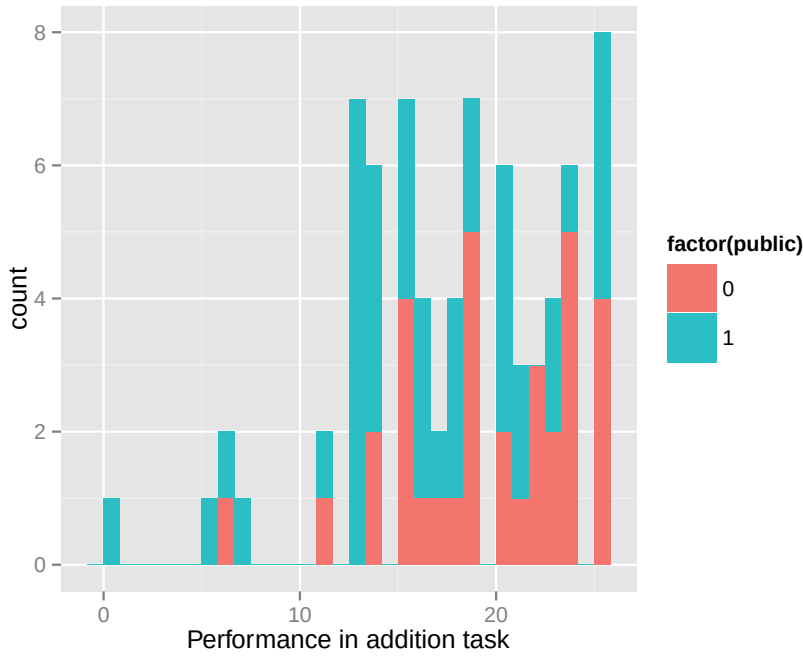
Figure 2.3   *Performance on addition task*

In the survey questionnaire, the subjects were asked demographic questions, including about caste. Of the private sector aspirants, only 3 percent belonged to the lower caste vs. 97 percent to the higher caste (Chi-square test p-value = 4.507e-05). Figure2.4 shows the mosaic plot of the odds ratio of choosing a different sector for higher and lower caste. In the horizontal axis, we have caste and on the vertical axis is the public vs. private sector. The length of the step denotes the difference in the odds ratio of the choice of profession between the public and private sectors of higher and lower caste. There was also a difference in performance on

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[6]Number of correct answers in the three-digit addition task.

the addition task between the high caste and low caste (p-value = 0.03), but no difference in unethical behavior (Wilcoxon rank-sum test p-value = .19).
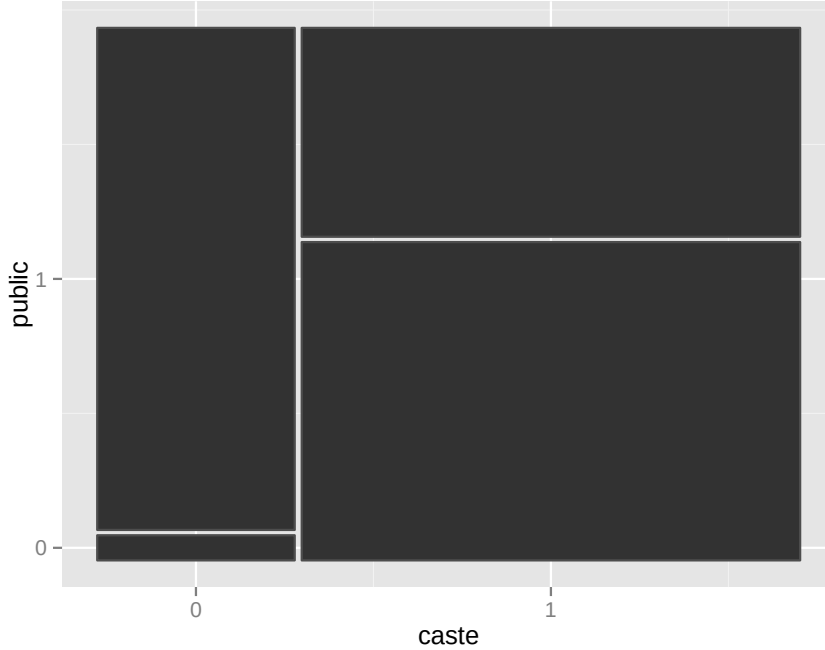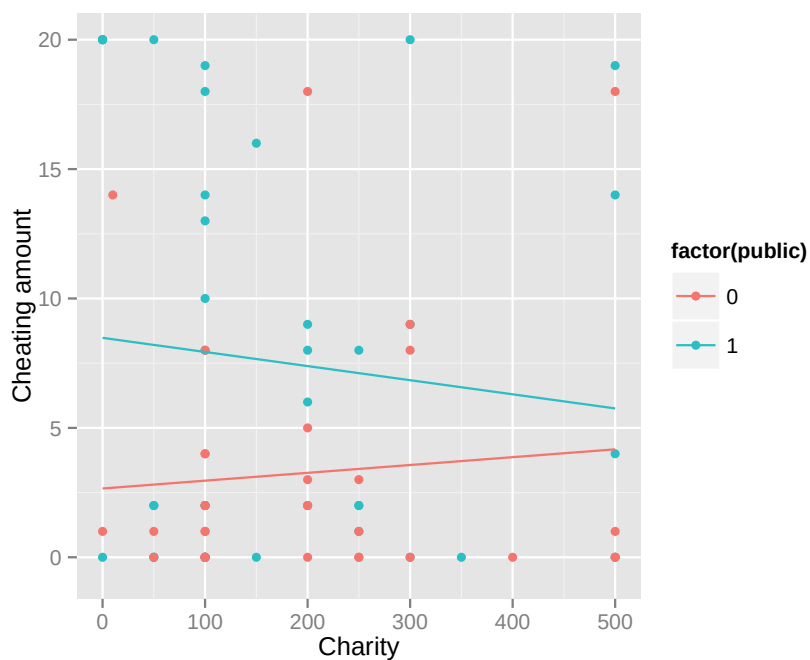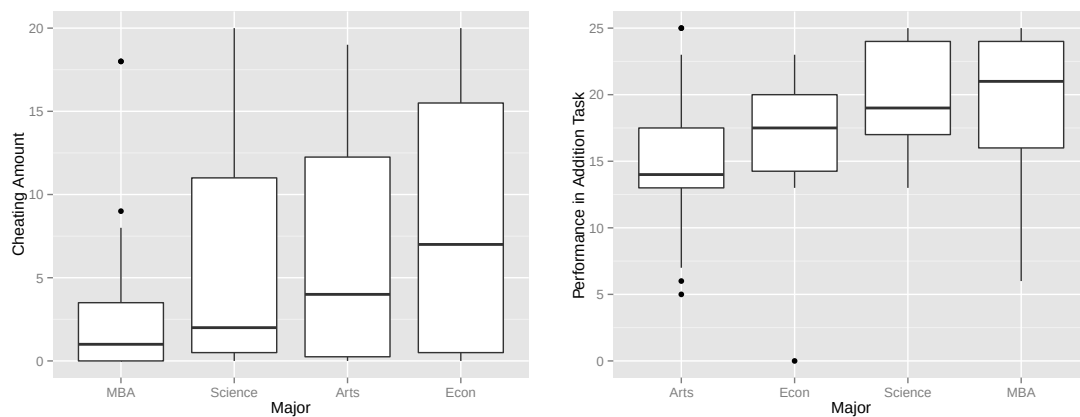
Figure 2.4   *Caste and preference for sector*

I also measured survey data regarding the public sector employability of the family members. Forty-nine percent of the subjects whose family member works in the public sector aspired to join the private sector vs. 63 percent who aspired to join the public sector. However, this difference was not significant; p-value = 0.29. Next, I compared the amount of charitable contribution between the public and private sector aspirants. Figure2.5 shows an interesting pattern in the data between amount of charitable contribution and cheating. For the public sector aspirants, I found a negative correlation, while a positive correlation exists for the private sector aspirants. The number of tokens sent to charities by the private and public sector aspirants was not statistically different (p-value = 0.224).

Figure2.6 shows the association between amount of cheating, performance in addition task and major. The amount of cheating changes as major changes, with the lowest for MBAs and maximum for Economics majors indicating some correlation. Similar associations between performance and majors is also found; MBAs being the highest performers and the lowest being

Figure 2.5 *Charity vs cheating*

for Arts Majors.

Figure 2.6 *Major vs. cheating and performance*

2.4.2 MODEL

I fit a logistic regression to model the preference of profession in the public vs. the private sector. The dependent variable was a binary variable indicating the aspiration to join the public or the private sector.

$$Y = \begin{cases} 1 & \text{if Public, with probability } p \\ 0 & \text{Private with probability } 1-p \end{cases}$$

I constructed the following model:

$$logit(Pr(Y=1|x)) = log\frac{Pr(Y=1|x)}{1-Pr(Y=1|x)} = \beta_0 + \beta_1 Z + \beta_2 X$$

where Z is the amount of cheating and X is vector of demographic variables such as gender, caste, family income, amount of donation to the charity, incentive choice scheme, expected future salary, cognitive skills and performance of the worker. The results are listed in Table2.2. Table2.3 shows the results of the Likelihood ratio test for each variable in the model.

I discuss here the rationale behind entering each variable in the econometric model. I wanted to see whether there was a gender difference in preferences for career choice. Also, cognitive skills can affect the choice of profession. In this experiment, I measured the subjects cognitive skills through their performance on the two-minute addition task. I used the total number of correct answers on the addition task as their measure of cognitive skill.

In the econometric model, I also controlled for caste. There are public sector employment quotas in India for individuals belonging to scheduled castes, scheduled tribes, and other backward classes to help these historically disadvantaged sections of society. Howard and Prakash 2012 found that the employment quota policy significantly affected the occupational structure of the disadvantaged populations.

Family income can be another economic reason for subjects to engage in unethical behavior. People from lower income strata may be more likely to engage in unethical behavior. I asked subjects about their parental income in the survey and used this measure to control for family income.

The workers performance can also affect the supervisors propensity to engage in unethical behavior. As the workers performance increases, the supervisor might feel guilty about cheating. There is a trade-off in this situation between individual benefits and costs imposed on others (Ariely, 2012).

Future expected income can also affect individuals choice of profession. In India, public sector wages are lower than private sector wages. Subjects who have lower expected future income might prefer public sector jobs. However, there is the option of engaging in unethical behavior in public sector jobs and, therefore, despite lower expected future income, people might seek these jobs.

Research shows differences in intrinsic motivations between employees in the public vs. the private sector (Gregg et al., 2011; Buurman et al., 2012; Serra et al., 2011; Banuri and Keefer, 2012). The focus of this experiment was to see whether sorting exists along propensity to engage in unethical behavior in public vs. private sector career aspirations. However, sorting can occur on other dimensions, such as social preferences, as well. Serra et al. (2011) found that altruistic health workers were more likely to work for non-profit organizations in Ethopia. Banuri and Keefer (2012) found that more pro-social subjects enter the public sector than the private sector in Indonesia. In this experiment, I measured the social preferences of subjects through a modified dictator game. In the econometric model, along with the propensity to engage in unethical behavior, I controlled for altruistic preferences (i.e., the number of tokens donated in the dictator game).

In India, the public sector compensation structure often does not reflect performance-based pay but rather a fixed wage scheme. Research in experimental economics studying worker selection into different work cultures has found that different compensation schemes attract different types of workers based not only on their productivity but also on their individual characteristics, such as their degree of risk aversion, degree of self-confidence, and social preferences (Dohmen and Falk, 2011). In fact, people who prefer fixed wage schemes over piece wage or tournament-based schemes might be attracted to public sector jobs. In our econometric model, I controlled for the preference for different incentives schemes.

The variables gender, cognitive skills, and family income did not significantly affect the preferences for pursuing a career in the public sector. I found that as worker performance increased, corruption shrank, indicating that subjects cheat less, probably due to guilt. However, this effect was not significant. Altruistic preferences did not significantly predict preference for the public or private sector. I did not find a significant effect of preferences for incentive

schemes on the preference for the career choices in the public and private sector.

The significant predictor variables were caste, expected future income, and amount of cheating. Holding everything at a fixed value, the odds of choosing the public sector in the higher caste over the odds of choosing the public sector in lower caste were 0.025. In terms of percentage change, the odds for the higher caste were 97.4 percent lower than the odds for the lower caste. People who expected a lower future salary were more likely to prefer the public sector and this effect was statistically significant. Controlling for all the above factors, we found that the amount of cheating in the unethical game significantly predicted the preference for joining the public sector. The coefficient for amount of cheating was significant and there was a 35.5 percent increase in the odds of choosing the public sector for a one-unit increase in amount of cheating, holding everything else at a fixed value.

A limitation of this study is that the sample size was too small to control for the school effect. All the subjects in this study who aspired to join the public sector came from the large public school. I conducted this experiment at two schools in India. Forty-five subjects who played the role of supervisors in this experiment were from a large public university and 29 were from the private management institute. Of the 45 subjects from the large public university, 41 wanted to join the public sector whereas 4 wanted to join the private sector. All 29 subjects from the private management institute wanted to join the private sector. The average amount of cheating among the four subjects in the public school who wanted to join the private sector was five tokens. The average number of tokens taken by cheating among the private sector aspirants was 5.14. Three of the four subjects belonged to a higher caste. Also, three of these subjects were males. Their average expected salary was 82500 INR[7]. The average expected future salary of the public sector aspirants in this sample was 57560.98 INR whereas that of the private sector aspirants was 108434.3 INR. I should be cautious in interpreting these results, however. This experiment showed evidence of possible self-selection in professional preferences based on propensity to engage in unethical behavior. Further research with a larger sample size and conducted at a single school could address this concern. In a future study, I want to conduct this research at a single school with a large sample size to provide clear evidence of

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[7]Indian currency

the self-selection effects based on propensity to engage in unethical behavior.

Explanatory variables	Estimate(Std. error)
Intercept	8.99
Amount of cheating	0.304 (0.13)*
Male	1.51(1.22)
Own performance	-0.089 (0.11)
High caste	-3.68 (1.45) *
Family income	4.057×10^{-06} (9.094×10^{-06})
Worker's performance	-0.13(0.10)
Future expected income	-8.118×10^{-05} (2.746×10^{-05}) ***
Social preferences	4.311×10^{-03} (4.238×10^{-03})
Piece rate	0.26 (1.573)
Tournament wage	0.48 (2.47)
N	74

Significant: '***' 0.01% '**' 1 % '*' 5 %'.' 10%. The dependent variable is a binary variable indicating the preferences to join the public(=1) or private(=0) sector.

Table 2.2 *Logistic regression: preferences for future career aspirations based on unethical behavior*

	Df	Deviance*	Residual Df	Resid. Dev	Pr($>\chi$)
Null model			73	101.719	
Amount of cheating	1	7.4549	72	94.264	0.006327 **
Male	1	5.4723	71	88.792	0.019321 *
Own performance	1	10.0590	70	78.733	0.001516 **
High caste	1	15.9558	69	62.777	6.484×10^{-05} ***
Family income	1	1.0068	68	61.770	0.315670
Future expected income	1	28.6488	67	33.122	8.677×10^{-08} ***
Social preferences	1	1.1809	66	31.941	0.277168
Incentive schemes	2	0.0865	64	31.854	0.957655
Worker's performance	1	1.0753	63	30.779	0.299753

*Likelihood ratio test statistic

Significant: '***' 0.01% '**' 1 % '*' 5 %'.' 10%.

Table 2.3 *Chi square tests for each variable in the model*

After fitting the model, I also check the overall model fit and the hypothesis regarding the regression parameters using a likelihood ratio test (LRT). Likelihood ratio tests are similar to partial F-tests in simple linear regression models. They compare the full model with a restricted

model where the explanatory variables of interest are omitted. The p-values of the tests are calculated using the χ^2 distribution. In Table 2b2.3, we see that amount of cheating, gender, performance on the addition task i.e. cognitive skills, caste and future expected income are statistically significant when they are introduced into the model.

2.5   CONCLUSION

I introduced a game to measure individual unethical behavior that is distinctly different from the bribery and petty corruption games used in the corruption experimental literature. The game models the most significant source of leakage of public resources embezzlement of public resources. Using this game, I measured the propensity to engage in unethical behavior by public and private sector and found that both public sector and private sector aspirants are equally likely to cheat. However, the public sector aspirants on average cheated more than private sector aspirants. Thus, we found evidence that corruptibility is an important sorting dimension for aspiration in the private or public sector. Other significant sorting dimensions were caste and expected future income.

From a policy standpoint, the results are important as they imply that occupational choice is correlated with the intrinsic characteristics of a person, as well as socioeconomic factors. The findings suggest that members of the lower caste in India might use affirmative action to improve their social status in society. A caveat of our study is that the subjects were university students who were yet to join either the public or the private sector. In a future study, I want to track these subjects and collect data on their real-life career choices. Also, in future studies, these effects can be mitigated by conducting the experiment on newly selected bureaucrats who are yet to start their term.

CHAPTER 3.   SOCIAL NORMS ABOUT BRIBE GIVING AND TAKING IN INDIA: AN EXPERIMENTAL ANALYSIS

For Chapter 2, I used a novel experimental methodology introduced by Krupka and Weber (2008) to measure social norms regarding social acceptability of bribes in India. I used a stylized situationobtaining a drivers licensein which the possibility to engage in unethical behavior is common. I asked subjects to rate the social acceptability of five situations depicting bribe giving and bribe taking at a drivers license testing facility. Using a coordination game approach, I provided incentives to the subjects to truthfully reveal their beliefs about common views on the acceptability of engaging in this type of unethical behavior. I found that the social acceptability rating varied with the bribe amount. For smaller bribes, there was lack of coordination on the modal social acceptability rating, whereas larger bribes were considered inappropriate by the majority of participants. I also varied the information regarding common behaviors at the drivers license testing facility by telling subjects in some treatments that bribe taking by public officials was prevalent. When bribe giving and bribe taking were socially acceptable, participants perceived bribes to be less socially inappropriate. Also, bribe giving was more socially acceptable than bribe taking in these socially acceptable bribing situations.

3.1   INTRODUCTION

In chapter 1, I studied the individual propensity to engage in unethical behavior and link it to future career preferences. In contrast, in this chapter, I study group behavior, in particular social norms regarding bribe giving and bribe taking in India. Economists have emphasized the effects of social norms on corruption (Fisman and Miguel, 2007; Banerjee et al., 2012; Gatti et al., 2003). Fisman and Miguel (2007) used the experimental data of United Nations (UN)

diplomatic parking violations in Manhattan, New York, and found a strong correlation between the number of diplomatic parking violations and the home country corruption indices. They also found a strong influence of legal sanctions on parking violations. When legal enforcement was imposed, parking violations fell by 98 percent. One caveat of the study is that social norms were indirectly measured by observing behavior. In this chapter, I used a novel experimental method introduced by Krupka and Weber (2008) to measure directly the social norms regarding bribe giving and bribe taking in India via a coordination game approach.

In this experiment, I specifically studied injunctive norms about bribe giving and bribe taking. Psychologists have defined injunctive norms as social norms that provide prescriptions regarding what should be done rather than what is done (Caldini et al., 1990). In this experiment, I defined norms as individual beliefs about the common understanding of the social acceptability of bribe giving and bribe taking situations. Therefore, the social acceptability rating in this experiment reflects the subjects belief about how others in society judge a particular situation and not an individuals personal ethics. I asked the subjects for their social acceptability rating for five situations related to bribe taking and bribe giving encountered by a drivers license applicant in India.[1]

In Situation 1, the drivers license applicant fails the driving test and the public official asks him to pay a bribe to obtain the license. The subjects rated the actions of the officer asking for a bribe (i.e., bribe taking) and the actions of the citizen accepting or rejecting the giving of a bribe. The four actions were low, medium, and high bribe offer and honest action. Situation 2 was framed from the perspective of the drivers license applicant. Here the drivers license applicant fails the driving test and offers the public official a bribe to obtain the license (i.e., bribe giving). The subjects also provided a social acceptability rating for the actions of the officer who agrees to accept or reject the bribe.

Situation 3 described a situation similar to the one in Experiment 1 (i.e., the unethical behavior experiment). In situation 3, I asked the subjects to rate the social acceptability of the unethical and honest actions of the supervisors in Experiment 1. Situations 4 and 5 were

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[1] I followed Krupka and Weber (2008, 2012) and used the term "social appropriateness" and "social inappropriateness" rating in the experimental instructions.

similar to Situations 1 and 2 with one exception. In Situations 4 and 5, I provided the additional information to the subjects that most of the officers at the drivers license office ask for a side payment if the applicant fails the driving test. Except for Situation 3, all other situations in the experiment were associated with others welfare and not individual welfare.

In all the situations, I asked the subjects to provide a social acceptability rating for each action on a 7-point scale: "very socially inappropriate," "socially inappropriate," "somewhat socially inappropriate," "neutral," "somewhat socially appropriate," "socially appropriate," and "very socially appropriate." In this experiment, I provided incentives to the subjects to match their rating with the responses of others following a coordination game. I asked the subjects to think about what the other subjects in the experiment would respond and not their personal preferences. The subjects received monetary payoffs only when their ratings matched the modal response of an action.

This study is the first experimental study to measure social norms regarding bribe taking and bribe giving in India in a common corrupt situation (i.e., obtaining a drivers license). I found that the modal responses of the social acceptability ratings varied positively with bribe amounts. Subjects coordinated less on the social acceptability rating for small bribe amounts whereas most of the subjects considered larger bribes inappropriate. In Situations 4 and 5, where I provided additional information regarding the prevalence of officers bribe taking, the social inappropriateness ratings of bribe giving and bribe taking was lower than in Situations 1 and 2. I found that bribe giving was more socially inappropriate than bribe taking in the socially acceptable Situations 4 and 5. However, I did not find this difference in Situations 1 and 2.

These results suggest the importance of changing the social norms regarding bribe taking and bribe giving to tackle corruption. Governments can organize educational campaigns to change the perceptions about corruption. A limitation of this study is that the subject pool consisted of university students. While this is a standard practice for most laboratory studies, one ought to be cautious when drawing inferences regarding such sensitive behavior as bribe giving and bribe taking in India. To improve generalizability, I plan to extend this work by conducting a follow-up study with a representative sample of subjects drawn from the general

population of India. Huffman et al. (2007) conducted a laboratory auction experiment with real consumers to determine consumers' willingness to pay for genetically modified goods in different information and labeling treatments.

The rest of the paper is structured as follows. In Section 2, I provide the literature review. Section 3 details the experimental design, procedures, and the data description. Section 4 presents the hypotheses, the results, and interpretation of the results. In Section 5, I provide the conclusions and limitations of the study and discuss policy implications.

3.2   LITERATURE REVIEW

In classical cost-benefit analysis, individuals decide whether to engage in unethical behavior by comparing the probability and magnitude of punishment (Becker, 1962) with the benefits. However, research has shown that it is not only the material benefits and costs that matter in individual decision making but also the social environment (i.e., the more prevalent corruption is, the higher is the individual propensity to engage in corrupt activity) (Andvig and Moene, 1990; Tirole, 1996). Hauk and Marti, 2002 studied corruption using an intergenerational model of transmission of values and found the existence of multiple equilibria with different levels of corruption. In their model, the educational efforts of the parents, which depend on the distribution of ethics in the population and the expectations about future policies of the government, determined the selection of equilibrium. Along with economic incentives like increased monitoring, punishment, and higher wages, they proposed implementation of intensive governmental public education campaigns to curtail corruption. This study highlighted the role of changing morals and values in younger generations to control corruption. I propose to study the moral and ethical nature of social norms regarding bribe giving and bribe taking in India.

Corruption has been widely studied using cross-country data. However, only a few microeconomic studies in the corruption literature have examined the social effects of corruption. Gatti et al. (2003) used the individual-level cross-country World Value survey data to study the determinants of corruption. They found strong effects of both social environment and demographic characteristics like gender, age, employment status, and income on individual attitude toward corruption. Guerrero and Oreggia (2008) investigated the individual determinants of

bribe giving in Mexico using survey data and qualitative focus group meetings. They found a trade-off between individual incentives to engage in corrupt behavior and both individual and social perceptions about corruption. In both these studies, norms and personal perceptions regarding corruption were measured by non-incentive-compatible surveys. In contrast, we measured social norms regarding bribe giving and bribe taking using an incentive-compatible laboratory experiment with students in India.

In this study, I elicited the social norms about the bribe giving and bribe taking of a hypothetical drivers license applicant. Bertrand et al. (2007) ran a field experiment with drivers license applicants in India and found evidence that individuals are willing to pay bribes to bureaucrats if it serves their needs and bureaucrats respond to individuals "private willingness to pay" for a driver's license. A higher willingness to pay a bribe to a public official to obtain a driver's license results in an increase in the number of license holders who cannot drive. The results support the view that corruption distorts the allocation of resources and imposes social costs. I chose to measure the social norms regarding bribe giving and bribe taking of this common unethical behavior situation to measure the social effects of corruption.

Social scientists measure social norms using various methods. The survey method is one of the prominent methodologies adopted to measure social norms (Kanazawa and Still, 2001; Perkins and Wechsler, 1996; Schwartz, 1973; Cullen and Bronson, 1993; Victor and Cullen, 1988). The survey is a cost-effective way to measure social norms in different situations. However, the survey is a non-incentive-compatible method. Therefore, surveys might not reveal truthful beliefs (Furnham, 1986) and preferences of responders, particularly when the situation is sensitive, leading to biased responses (Schulze et al., 1996).

Experimental economists have studied norms indirectly from observed anomalous behavior related to a particular norm (Fehr and Fischbacher, 2004; Fehr and Camerer, 2004; Fehr and Gachter, 2000). The primary advantage of using an experiment is that it is an incentive-compatible way to reveal preferences. However, since norms are indirectly measured by observing the decisions individuals make in an experiment, it is often difficult to distinguish between preferences for particular outcomes versus preferences for complying with the associated norm. Empirical data have also been used to infer norms indirectly, for example, tipping behavior

(Conlin et al., 2003) and social norms about corruption (Fisman and Miguel, 2003).

Krupka and Weber (2008) employed a novel experimental method to measure social norms. They used coordination games (Schelling, 1960) to measure social norms about other-regarding behavior in dictator games and then used the measured norms to predict the behavior of a different pool of subjects. This method recognized the joint approval of members of a group for a social norm in a particular situation (Bicchieri, 2006). They measured the social appropriateness rating (Krupka and Weber, 2008, 2012) of particular hypothetical actions in different contexts. They presented subjects with descriptions of different situations and the sets of actions available in those situations. Subjects were asked to rate the social appropriateness of each action on a Likert scale. The subjects were provided with incentives to reveal not their own preferences, but to match the responses or ratings of others in the coordination game. Coordination games reflect the joint consensus of beliefs regarding social norms. Coordination games have multiple equilibria. Schelling (1960), Mehta et al. (1994), and Sugden (1995) proposed that a similar culture can create focal points to choose one equilibrium over another. According to Krupka and Weber (2008), social norms can act as focal points in the coordination game. If there is a joint agreement that on the social acceptability of some actions, respondents will rely on such shared beliefs to match others' responses.

I used this method to elicit the social norms regarding bribe giving and bribe taking in India. The coordination games used in this method measure the joint perceptions of the social acceptability of particular situations. The social norms about bribe giving and bribe taking measured in this experiment were injunctive norms rather than descriptive norms and personal ethics. Psychologists describe injunctive norms as norms about what should to be done while descriptive norms describe what is regularly done (Caldini et al., 1990).

I used the social norms regarding bribe giving and bribe taking to analyze three research questions. My first hypothesis was that the social acceptability rating is malleable to bribe amounts. Ariely and Mazar (2006) found that people cheat but not to the full extent as a rational agent, suggesting evidence of an internal reward mechanisms for honesty. Therefore, individuals might be comfortable bribing or asking for small bribes but they become conscious with larger bribes.

Research has shown the strong influence of social norms on an individuals propensity to engage in dishonest behavior (Dino et al., 2009; Fisman and Miguel, 2007; Tirole, 1996; Andvig and Moene, 1990). As the perceived levels of corruption in a country increase, the more corruption is justified since citizens feel less guilt about engaging in a corrupt activity (Gatti et al., 2003). I varied the treatments of the experiment by providing the additional information to the subjects that the majority of the officers take bribes to study the social context of corruption. I hypothesized that bribe taking and bribe giving are less socially inappropriate in the treatments where I provided the additional information. Also, the propensity to engage in a corrupt activity depends on legal, social, and individual sanctions (Mazar et al., 2006; Fisman and Miguel, 2007). The information decreased all these three costs associated with engaging in unethical acts.

Finally, I hypothesized that bribe giving is less socially inappropriate than bribe taking in the socially acceptable treatments. When the additional information regarding the wide prevalence of bribe taking among officers was provided, subjects might have believed that the officers engage in the act of asking for a bribe on a regular basis and therefore perceived the situation as more inappropriate. On the other hand, citizens might have been forced to offer bribes to get a drivers license since corruption is often a way of life in an endemically corrupt society (Guerrero and Oreggia, 2008). Thus, the subjects might have perceived bribe giving as less socially inappropriate than bribe taking.

3.3   EXPERIMENTAL DESIGN

I designed the norm elicitation experiment following Krupka and Weber (2008) to measure the social norms regarding bribe giving and bribe taking in India. The subjects in the norm elicitation experiment were the "workers" of Experiment 1. A coordination game structure was added to the existing method of eliciting norms using hypothetical vignettes (Conroy and Emerson, 2006). In this experiment, each vignette described an incident where a drivers license applicant fails a driving test and is either asked to pay a bribe by a public official or offers a bribe to a public official to obtain a drivers license.

There were five situations with four different alternative actions. Situation 1 described a

phenomenon where a person goes to obtain a drivers license from the driving test center and fails the driving test. He is asked to pay a bribe by a public official (i.e., bribe taking). The amount of the bribe varies from small to large. The officer sends one of four messages: 1. Pay rupees 200 to obtain the drivers license. 2. Pay rupees 500 to obtain the drivers license. 3. Pay rupees 700 to obtain the drivers license. 4. You will have to take the test again. We asked the subjects to rate the acceptability of these four actions of the officer. The citizen could either accept or reject the messages from the officer. The actions of the citizen were: 1. Accept message one from the officer (i.e., pay rupees 200 to obtain the drivers license). 2. Accept message two from the officer (i.e., pay rupees 500 to obtain the driving license). 3. Accept message three from the officer (i.e., pay rupees 700 to obtain the drivers license). 4. Reject any message from the officer. We also asked the subjects to rate the acceptability of the drivers license applicant either accepting or rejecting the offer from the officer.

Situations	Description	Treatment
Situation 1	Bribe-taking	No information provided
Situation 2	Bribe-giving	No information provided
Situation 3	Unethical behavior experiment 1	-
Situation 4	Bribe-taking	Information provided- acceptable
Situation 5	Bribe-giving	Information provided- acceptable

Table 3.1   *Summary of situations*

Situation 2 described the same incident from the perspective of the drivers license applicant. Here the drivers license applicant offers different amounts of bribe to a public official to obtain the drivers license (i.e., bribe giving). The bribe offered varies from small to large. The drivers license applicant sends the following messages to the officer: 1. I will pay you rupees 200; please give me the drivers license. 2. I will pay you rupees 500; please give me the drivers license 3. I will pay you rupees 700; please give me the drivers license. 4. I will appear for the test again. The subjects were asked to rate the acceptability of the applicants actions. The officer could either accept or reject the offers from the drivers license applicant. The subjects were also asked to rate the acceptability of the officers accepting or rejecting the bribe from the applicants. The actions of the officer included: 1. Accept message one from the applicant

(i.e., I will pay you rupees 200; please give me the drivers license. 2. Accept message two from the applicant. 3. Accept message three from the applicant. 4. Reject any message from the applicant.

In Situation 3, I presented a hypothetical scenario to the subjects that was similar to the situation in Experiment 1. We asked the subjects to imagine a situation where there were two groups: workers and supervisors. Each supervisor was matched with a worker. The worker performed in a real-effort task and the supervisor evaluated the task. In the real-effort task, the worker was asked to solve 20 simple math problems. The supervisors role was to pay the worker based on performance. For each correct answer, the payoff of the worker was rupees 50. The supervisor received a fixed wage for grading the workers booklet. Once the supervisor graded the worker, the supervisor had to ask for the total number of tokens needed to pay the worker. This process was not monitored. Therefore, the supervisors could cheat and keep more money for himself. The amount of cheating could vary among supervisors. The possible strategies of the supervisor included:

1. He could over-report to the cashier (i.e., claim more tokens) and pay less to the worker (i.e., put fewer tokens in the workers envelope than the worker deserved).

2. He could over-report to the cashier (i.e., claim more tokens) and pay nothing to the worker (i.e., put no tokens in the workers envelope).

3. He could over-report to the cashier (i.e., claim more tokens) and be truthful to the worker (i.e., put the exact number of tokens in the envelope that the worker deserved).

4. He could be truthful with the cashier (i.e., claim the exact number of tokens) and pay less to the worker (i.e., put fewer tokens in the workers envelope than the worker deserved).

5. He could over-report to the cashier (i.e., claim more tokens) and pay more to the worker (i.e., put more tokens in the workers envelope than the worker deserved).

6. He could be truthful with the cashier (i.e., claim the exact number of tokens) and be truthful with the worker (i.e., put the exact number of tokens in the envelope that the

worker deserved).

The subjects were asked to provide the acceptability ratings of the actions of the supervisors.

Situations 4 and 5 varied in only one facet versus Situation 1 and 2. Here, we provided subjects with the additional information that most of the officers at the drivers license office ask for a side payment if the applicant fails the driving test. Situation 4 was similar to Situation 1 (i.e., the bribe-taking situation) and Situation 5 was similar to Situation 2 (i.e., the bribe-offering situation). Subjects also had to rate the actions of the officer and the applicant in Situations 4 and 5, which was similar to Situations 1 and 2. For each of the above situations, the subjects were asked to provide a social appropriateness rating of each action on a 7-point scale ranging from -3 to 3. The ratings were "very socially inappropriate," "socially inappropriate," "somewhat socially inappropriate," "neutral," "somewhat socially appropriate," "socially appropriate," and "very socially appropriate."

Every subject received a participation payment. Subjects received incentives to match their ratings for each action with the modal response of that action. Subjects were informed that only one of the situations and one of the actions in that situation would be randomly selected at the end of the session to determine their payoffs. If the subjects acceptability rating was the same as the modal response in the session for the randomly selected action, then the subject received an additional monetary payoff along with the participation amount. If the rating did not match with the modal response, the subject received only the participation amount.

After the norm elicitation, subjects were asked to fill out a survey questionnaire. Survey questions were related to demographic information and career choices (e.g., Would you like to join the public sector or the private sector? Are you preparing for the civil service examination? How many times have you appeared for the civil service exam?)

3.4 RESULTS

3.4.1 HYPOTHESES

I measured the norms about bribe-giving and bribe-taking in India under two treatments. The only difference in the two treatments was that in one treatment, I provided subjects
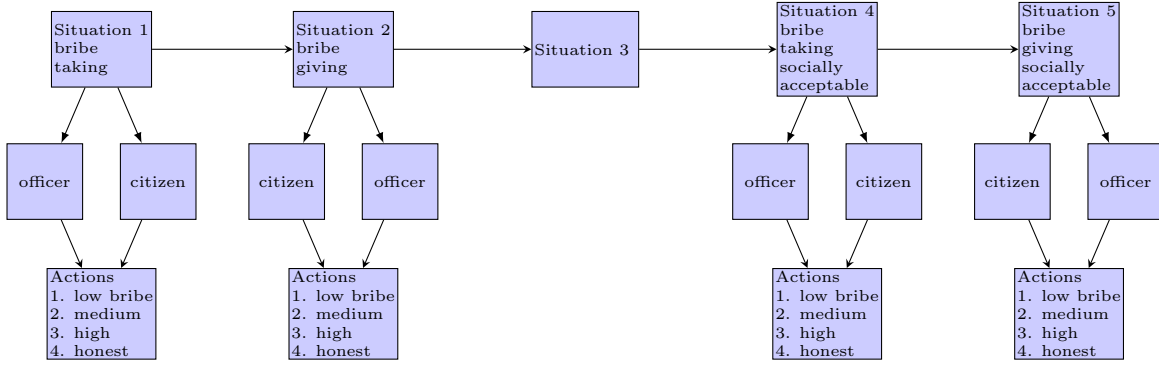
Figure 3.1 *Experimental design of norm elicitation game*

with the additional information that most of the public officials take bribes (i.e., the socially acceptable situation) and then asked the subjects to evaluate the social appropriateness rating of bribe giving and bribe taking. Therefore, we formulated the following hypotheses:

Hypothesis 1: Social acceptability rating depends on bribe amount. There is more agreement on social inappropriateness for large bribe offers. However, the social appropriateness rating is more malleable for smaller bribes.

Hypothesis 2: Bribe taking and bribe giving are less inappropriate in the information treatment than in the no information treatment.

This might hold because the social, legal, or personal costs of engaging in an unethical act are reduced in the information treatment. In the socially acceptable situation, most people engage in an unethical act and therefore there is less embarrassment about being caught. When everybody behaves unethically, then the probability of being punished by the government might also be lower. Engaging in unethical behavior is contagious (Ariely, 2012). Our personal cost of engaging in unethical behavior is reduced when corruption is prevalent.

Hypothesis 3: Bribe taking is less socially acceptable than bribe giving.

3.4.2 DATA DESCRIPTION

I recruited subjects from a large public university and a business school in India. Ninety subjects from the public university participated in Experiment 1 and 58 subjects from the management school participated. In Experiment 1, subjects were randomly divided into the role of worker or supervisor. The subjects in the role of workers participated in the norm

elicitation experiment. Therefore, 74 subjects participated in the norm elicitation experiment. Three rounds were held at the public university and one round at the management school. All the rounds were run as non-computerized experiments and the same procedures were followed.

I converted subjects' ethical norm ratings into numerical scores. The ratings fell between -3 to 3. A rating of "very ethically inappropriate" received a score of -3, "neutral" a score of 0 and "very ethically appropriate" received a score of 3. Table 3.2 shows the ethical appropriateness rating of subjects coordinating with each other in Situation 1 i.e. bribe-taking scenario. Each row corresponds to one possible action choice that the officer and the driver's license applicant could take. The columns of Table 3.2 report first subjects' mean ethical appropriateness rating and then the distribution of responses.

The ratings are ordered in the sequence from the least ethically appropriate to the most in Table 3.2. For actions of both the officer and the driver's license applicant, the modal response receives more number of responses as the bribe amount increases from Action 1 to Action 3 and the honest Action 4. The value of the chi-square test for the officer and applicant's actions is 277.34 and 204.871 respectively (p-value < 2.2e-16). There is a difference in pattern of ratings between the different actions. This is consistent with Hypothesis 1. The distribution of responses show that subjects have less agreement for lower bribe than higher bribe. Our data shows that for all levels of bribe, the social acceptability ratings of the conditional actions of the driver's license applicant agreeing to pay the bribe are higher than the actions of the officers asking for a bribe, see Table 3.2. The mean acceptability rating of the actions of the officer and applicant are monotonically decreasing from low to high amount of bribe offers.

Table 3.3 shows the ethical appropriateness ratings of Situation 2 i.e. bribe-giving situation. Similar to Situation 1, the modal response for Actions 3 and 4 of both the driver's license applicant and officer receives the highest number of responses in Situation 2. This suggests "more moral wiggle room" in evaluating the social acceptability of giving/accepting low bribe offers versus higher bribes. The value of the chi-square test for the applicant's and officer's actions is 166.66 and 162.24 respectively (p-value < 2.2e-16). This suggests that there is a difference in pattern of ratings between the different actions.

Table 3.4, enumerates the ethical appropriateness rating in Situation 4. I provided the

Officer		Ratings							
Action	**Mean**	**-3**	**-2**	**-1**	**0**	**1**	**2**	**3**	**Std. Dev**
1. Low bribe	-1.01	17.57%	18.92%	**36.49%**	9.46%	12.16%	2.70%	2.70%	1.48
2. Medium bribe	-1.47	18.92%	**40.54%**	25.68%	4.05%	5.41%	5.41%		1.31
3. High bribe	-2.10	**58.11%**	20.27%	12.16%		5.41%		4.05%	1.49
4. Honest action	2.41	2.70%		1.35%	5.41%	2.70%	16.22%	**71.62%**	1.27
Applicant		**Ratings**							
Action	**Mean**	**-3**	**-2**	**-1**	**0**	**1**	**2**	**3**	**Std. Dev**
1. Low bribe	-0.54	22.97%	8.11%	**29.73%**	6.76%	13.51%	9.46%	9.46%	1.95
2. Medium bribe	-1.28	16.22%	**40.54%**	25.68%	1.35%	8.11%	5.41%	2.70%	1.5
3. High bribe	-1.84	**43.24%**	27.03%	14.86%	5.41%	6.76%	2.70%		1.44
4. Honest action	2.07	6.76%	1.35%	1.35%	6.76%	2.70%	14.86%	**66.22%**	1.74

Ratings: -3- "very ethically inappropriate", 0- "neutral" , 3- "very ethically appropriate". The modal responses are marked in bold.

Table 3.2 *Distribution of appropriateness ratings of Situation 1-bribe taking situation*

Applicant		Ratings							
Action	**Mean**	**-3**	**-2**	**-1**	**0**	**1**	**2**	**3**	**Std. Dev**
Low bribe	-0.62	21.62%	18.92%	**24.32%**	2.70%	13.51%	5.41%	13.51%	2.04
Medium bribe	-1.16	21.62%	**33.78%**	18.92%	5.41%	6.76%	12.16%	1.35%	1.69
High bribe	-1.73	**44.59%**	21.62%	18.92%	1.35%	8.11%	1.35%	4.05%	1.62
Honest	1.97	6.76%	1.35%	2.70%	8.11%	4.05%	12.16%	**64.86%**	1.79
Officer		**Ratings**							
Action	**Mean**	**-3**	**-2**	**-1**	**0**	**1**	**2**	**3**	**Std. Dev**
Low bribe	-0.88	**24.32%**	20.27%	21.62%	4.05%	17.57%	6.76%	5.41%	1.85
Medium bribe	-0.95	21.62%	**29.73%**	18.92%	4.05%	8.11%	12.16%	5.41%	1.89
High bribe	-1.35	**51.35%**	10.81%	10.81%	2.70%	8.11%	5.41%	10.81%	2.16
Honest	1.93	6.76%	2.70%	2.70%	8.11%	1.35%	14.86%	**63.51%**	1.84

Ratings: -3- "very ethically inappropriate", 0- "neutral" , 3- "very ethically appropriate". The modal responses are marked in bold.

Table 3.3 *Distribution of appropriateness ratings of Situation 2- bribe-giving situation*

subjects with the additional information that most of the public officials take bribes at the license office. Subjects then rated the social acceptability of the actions of the public officer asking for bribes and the drivers license applicant agreeing or rejecting the officers bribe request. Similar to Situations 1 and 2, I found that the modal responses increased positively with the bribe offers both for the officer and the drivers license applicant. The value of the chi-square test for the officers and applicants actions is 176.71 and 116.75, respectively (p-value < 2.2e-16).

Officer		Ratings							
Action	Mean	-3	-2	-1	0	1	2	3	Std. Dev
Low bribe	-0.07	13.70%	10.96%	19.18%	12.33%	**20.55%**	15.07%	8.22%	
Medium bribe	-0.81	13.51%	**29.73%**	27.03%	5.41%	5.41%	16.22%	2.70%	1.73
High bribe	-1.5	**41.89%**	20.27%	17.57%	2.70%	6.76%	5.41%	5.41%	1.82
Honest action	1.93	2.74%	4.11%	5.48%	9.59%	2.74%	13.70%	**61.64%**	
Applicant		Ratings							
Action	Mean	-3	-2	-1	0	1	2	3	Std. Dev
Low bribe	0.43	13.51%	1.35%	16.22%	16.22%	**18.92%**	17.57%	16.22%	1.9
Medium bribe	-0.47	9.46%	**28.38%**	20.27%	9.46%	12.16%	14.86%	5.41%	1.79
High bribe	-1.14	**31.08%**	20.27%	20.27%	4.05%	13.51%	5.41%	5.41%	1.85
Honest action	1.24	10.81%	13.51%	2.70%	2.70%	5.41%	13.51%	**51.35%**	2.3

Ratings: -3- "very ethically inappropriate", 0- "neutral" , 3- "very ethically appropriate". The modal responses are marked in bold.

Table 3.4 *Distribution of appropriateness ratings of Situation 4- socially acceptable bribe-taking situation*

I ran a Wilcoxon rank-sum test, a nonparametric comparison of the distributions of the ordinal ratings of the acceptability of actions of Situation 1 and Situation 4. The results are listed in Table 3.5. The distribution of ratings of actions 1-3 under Situation 1 and Situation 4 are significantly different. This supports Hypothesis 2. Also, I performed the chi-square test to see whether the distribution of ratings for each action in Situations 1 and 4 differ. We found that the ratings of each action in Situations 1 and 4 were statistically significantly different. This suggests that indeed subjects perceived the two treatments to be different. The mean social inappropriateness rating of actions in Situation 4 is lower than Situation 1. When the additional information is provided to the subjects, it might reduce the social, legal, and personal costs of sanctions of engaging in unethical behavior. Therefore, when bribe-taking is widely prevalent, subjects tend to perceive it as a norm and rate it as less inappropriate. However, in this experimental design, I did not separate the three costs.

In Table 3.6, I list the ethical acceptability rating of Situation 5 (i.e. ,the bribe-giving

Officer	Situation 1	Situation 4		
Action	**Mean**	**Mean**	**Wilcox p value**	χ^2 **p value**
Low bribe	-1.01	-0.07	0.0007	4.23×10^{-6}
Medium bribe	-1.47	-0.81	0.01	.01
High bribe	-2.10	-1.5	0.01	.006
Honest action	2.41	1.93	0.94	.002

Table 3.5   *Test of statistical difference between Situation 1 and Situation 4*

situation. In this treatment, I also provided the subjects with the information that most of the public officials take bribes at the drivers license office. For both the applicant and the conditional actions of the officer agreeing to accept the bribe offer, the modal response of Actions 1-3 (i.e., different bribe offers) receives less than 50 percent of the responses. Only Action 4 (i.e., the honest action) receives more than 50 percent of the votes. The chi-square test of the applicants and the officers actions are 138.47 and 125.58, respectively (p-value < 2.2e-16).

Applicant		Ratings							
Action	**Mean**	**-3**	**-2**	**-1**	**0**	**1**	**2**	**3**	**Std. Dev**
Low bribe	0.19	12.16%	5.41%	**25.68%**	8.11%	17.57%	18.92%	12.16%	1.9
Medium bribe	-0.32	10.81%	20.27%	**22.97%**	9.46%	14.86%	16.22%	5.41%	1.8
High bribe	-1.01	24.32%	18.92%	**29.73%**	4.05%	10.81%	8.11%	4.05%	1.75
Honest action	1.56	10.81%	2.70%	4.05%	10.81%	1.35%	12.16%	**58.11%**	2.1
Officer		**Ratings**							
Action	**Mean**	**-3**	**-2**	**-1**	**0**	**1**	**2**	**3**	**Std. Dev**
Low bribe	-0.01	12.16%	13.51%	**21.62%**	8.11%	17.57%	14.86%	12.16%	1.94
Medium bribe	-0.27	10.81%	**25.68%**	18.92%	4.05%	12.16%	21.62%	6.76%	1.93
High bribe	-0.89	**31.08%**	20.27%	16.22%	4.05%	6.76%	10.81%	10.81%	2.12
Honest action	1.66	10.81%	2.70%	6.76%	6.76%		8.11%	**64.86%**	2.15

Ratings: -3- "very ethically inappropriate", 0- "neutral" , 3- "very ethically appropriate". The modal responses are marked in bold.

Table 3.6   *Distribution of appropriateness ratings of Situation 5- socially acceptable bribe-giving situation*

I ran the Wilcoxon rank-sum test, a nonparametric comparison of the distributions of the ordinal ratings of the appropriateness of actions of Situation 2 and Situation 5. The results are listed in Table 3.7. The distribution of ratings of Actions 1-3 is significantly different. The results of the chi-square test also suggest that the distribution of ratings of Situation 2 and Situation 5 differ. This supports Hypothesis 2. This evidence supports subjects perceiving the

bribe-giving act as less inappropriate when corruption is widely prevalent. Corruption is seen as justifiable when the society is perceived to be more corrupt.

Officer Action	Situation 2 Mean	Situation 5 Mean	Wilcox p value	χ^2 p value
Low bribe	-0.62	0.19	0.005	.015
Medium bribe	-1.16	-0.32	0.01	.09
High bribe	-1.73	-1.01	0.01	.07
Honest action	1.97	1.56	0.85	.8609

Table 3.7 *Test of statistical difference between Situations 2 and 5*

Next, I compared the distribution of ratings of Situations 4 and 5 (i.e., bribe-giving and bribe-taking) in the socially acceptable treatment in Table 3.8. The p-value of the chi-square test is insignificant, suggesting that the distribution of ratings of bribe taking and bribe giving within each treatment (i.e., information vs. no information) does not differ statistically. However, the p-value of the Wilcox sum rank test is significant. This suggests that the distribution of rating of bribe giving and taking within each treatment does not differ statistically but the mean appropriateness rating of Actions 1-3 are lower in Situation 4 than Situation 5. People perceive bribe taking as more socially inappropriate than bribe giving. This is consistent with our Hypothesis 3. However, there is no significant difference in the norms of bribe giving and taking in Situations 1 and 2 (i.e., the no information situation). This might be because, in the socially acceptable Situations 4 and 5, subjects perceive officers to engage in bribe taking frequently and therefore perceive bribe taking to be socially more inappropriate than bribe taking. However, in Situations 1 and 2 when no information about the prevalence of bribe taking among officers is provided, subjects do not hold such beliefs. Therefore, we found no significant difference between bribe giving and bribe taking in Situations 1 and 2.

Comparison of the distribution of ratings of the officer asking for a bribe and the conditional distributions of the citizens agreeing to pay a bribe is provided in Table 3.9. There is no significant difference in the distributions of ratings of bribe taking and conditional actions of the applicant agreeing to pay a bribe in Situations 1 and 4 (i.e., the p-value of chi-square test is insignificant). However, the p-value of the Wilcox sum rank test does differ significantly.

Action	Situation 4	Situation 5	Wilcox p value	χ^2 p value
Low bribe	-0.07	0.19	1.99×10^{-1}	.71
Medium bribe	-0.817	-0.32	4.61×10^{-2}	.37
High bribe	-1.5	-1.01	1.54×10^{-2}	.28
Honest Action	1.93	1.56	7.72×10^{-1}	.62
Action	Situation 1	Situation 2	Wilcox p value	χ^2 p value
Low bribe	-1.01	-0.07	0.27	.09
Medium bribe	-1.47	-0.81	0.25	.62
High bribe	-2.10	-1.5	0.04	.56
Honest Action	2.44	1.93	0.88	.72

Table 3.8   *Test of statistical difference between Situation 4 and 5, Situation 1 and 2*

This suggests that the mean appropriateness rating of the conditional distribution of citizens agreeing to pay a bribe in Situations 4 and 1 is higher than the acceptability rating of bribe taking by the officer. This provides supportive evidence that bribe taking is socially more inappropriate than the conditional willingness to pay a bribe.

Situation 1				
Action	officer	applicant	Wilcox p value	χ^2 p value
low bribe	-0.62	-0.88	9.47×10^{-2}	.12
Medium bribe	-1.16	-0.95	1.08×10^{-4}	.82
High bribe	-1.73	-1.35	2.33×10^{-6}	.245
Honest action	1.97	1.93	8.20×10^{-1}	.90
Situation 4				
Action	officer	applicant	Wilcox p value	χ^2 p value
low bribe	-0.07	0.43	0.05	.22
Medium bribe	-0.81	-0.47	0.03	.59
High bribe	-1.5	-1.14	0.06	.79
Honest action	1.93	1.24	0.95	.78

Table 3.9   *Test of statistical difference between officer's and citizen's action in Situations 1 and 4*

In Table 3.10, the distribution of ratings of Situation 3 is listed. Except for Actions 3 and 4, the subject coordinated on the social acceptability rating of the actions. In Actions 3 and 4, there is a trade-off between personal gain and unethical behavior. This might lead to a dilemma in coordination on social acceptability rating of these actions and eventually to less

Action		Ratings						
Action	**Mean**	**-3**	**-2**	**-1**	**0**	**1**	**2**	**3**
1	-1.97	**41.94%**	38.71%	11.29%		1.61%	3.23%	3.23%
2	-2.55	**87.10%**		6.45%	1.61%		1.61%	3.23%
3	-0.29	9.84%	14.75%	**29.51%**	9.84%	18.03%	11.48%	6.56%
4	0.56	6.45%	11.29%	12.90%	14.52%	19.35%	14.52%	**20.97%**
5	2.45		3.23%	1.61%	4.84%	4.84%	8.06%	**77.42%**
6	-1.39	19.35%	**35.48%**	32.26%	3.23%	1.61%	3.23%	4.84%

Ratings: -3- "very ethically inappropriate", 0- "neutral" , 3- "very ethically appropriate". The modal responses are marked in bold.

Table 3.10   *Distribution of appropriateness ratings of Situation 3*

coordination (Ariely, 2012).

Finally, to check whether the difference in the social acceptability ratings is due to the difference in the situations or within personal variations in ratings, I fit the following linear mixed effect model:

$$Y_{it} = \beta_0 + \beta_1 Z + \beta_2 X + \alpha_i + \epsilon_{it}$$

$$E(\alpha_i) = 0, E(\epsilon_{it}) = 0, Var(\alpha_i) = \sigma_\alpha^2, Var(\epsilon_{it}) = \sigma_\epsilon^2$$

The dependent variable is the social acceptability rating. Z is the dummies for different situations (i.e., Situations 1, 2, 4, or 5). X is the dummies for four actions (i.e., low, medium, and high bribe and honest action). To control for the effect of variation in rating for each individual, we introduced a random effect (i.e., α_i) . We also controlled for gender and the aspirations of the subjects to join the public sector or the private sector.

Table 3.11 shows the results of the linear mixed effect model. Situation 1 where the public official is asking for a bribe is the baseline category. Compared to the baseline situation, the social acceptability rating in Situations 4 and 5 (i.e., the socially acceptable treatment) is higher. The low bribe action is the baseline comparison group. Compared to lower bribe actions, medium and higher bribe actions have a lower social acceptability rating and the honest action has the highest social acceptability rating. Norms are often related to "identities" or groups and often ethical norms vary between groups (Krupka et al., 2008). We wanted to see

Fixed effects			
	Estimate	**Std. error**	**t value**
Intercept	-0.633	0.235	-2.692
Situation 1 applicant	0.145	0.141	1.027
Situation 2 applicant	0.159	0.141	1.123
Situation 2 officer	0.233	0.141	1.648
Situation 4 officer	0.433	0.141	3.054**
Situation 4 applicant	0.561	0.141	3.965***
Situation 5 applicant	0.652	0.141	4.61***
Situation 5 officer	0.666	0.141	4.705***
Medium bribe	-0.527	0.100	-5.271***
High bribe	-1.129	0.100	-11.28***
Honest Action	2.167	0.100	21.643***
Male	-0.027	0.194	-0.141
Public	-0.032	0.171	-0.185
N	2112		

Significant: '***' 0.01% '**' 1 % '*' 5 %'.' 10%.

Overall R-sq: .4026

Table 3.11   *Linear mixed effect model results: social appropriateness ratings on situations and actions*

whether there was a difference in perception of social norms related to bribe giving and bribe taking between public and private sector aspirants and gender. Also previous studies (Dollar et al., 2001; Swamy et al., 2001 Gatti et al., 2003) found that women are relatively more averse to corruption (i.e., bribes). One reason for this finding may be that the norms held by the women differ from those of men. However, we did not find a statistically significant effect of gender and the aspiration to join the public sector on the social acceptability ratings. I also fit a fixed-effect regression model. The results of this model are listed in Table 2.13. Situations 1, 4, and 5 and different bribe amounts are significant predictors of subjects acceptability ratings.

Fixed effects			
	Estimate	**Std. error**	**t value**
Situation 1 officer	-.239	.118	-2.02*
Situation 1 applicant	.349	.118	2.95 ***
Situation 4 officer	.777	.118	6.58 ***
Situation 4 applicant	1.098	.118	9.30***
Situation 5 applicant	1.102	.118	9.33***
Situation 5 officer	.981	.118	8.31***
Low bribe	-1.890	.096	-19.60 ***
Medium bribe	-2.585	.096	-26.81***
High bribe	-3.445	.096	-35.73***
Intercept	1.624	.090	18.01 ***
N	2112		

Significant: '***' 0.01% '**' 1 % '*' 5 %'.' 10%.

Overall R-sq: 0.3911

Table 3.12   *Fixed effects regression model results: social appropriateness ratings on situations and actions*

3.4.3   DIFFERENCE IN THE TWO SUBJECT POOLS IN THE NORM EXPERIMENT

The subjects in the role of "worker" in Experiment 1 participated in the norm elicitation experiment. There is one concern with this methodology. The subjects participated in the unethical game experiment prior to the norm elicitation experiment. This might have affected their behavior in the norm elicitation experiment. One important consideration for an economic

experiment is that the experimental design should not bias the behavior or decision-making process of the subjects.

In experimental economics, the strategy method (Selton, 1967) is used extensively to elicit decisions. In this method, subjects are asked to choose their response for the entire set of actions that the other player can take in a particular experimental game. Only one response is randomly selected at the end, which then determines the payoffs of both subjects. However, the strategy method is often criticized as being "cold" because of its hypothetical nature. In a "hot" treatment, the second player responds after observing the first players actions, unlike in a strategy method.
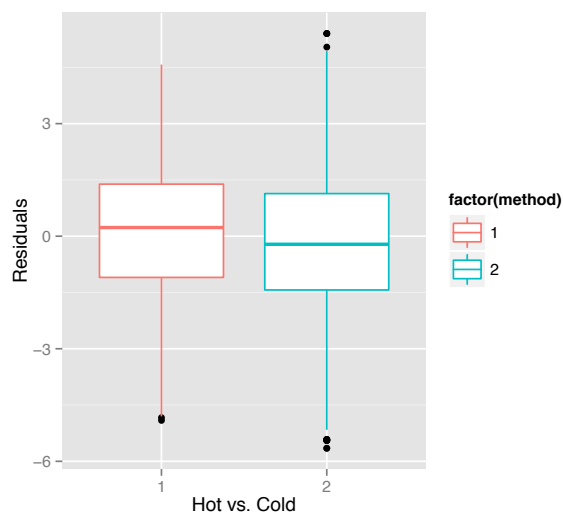
Researchers have reported mixed results from using "hot" and "cold" treatments in decision making in experimental economics. Brandts and Charness 2000 conducted two-person sequential games in a "hot" treatment and a "cold" treatment (i.e., the strategy method) and found no difference in behaviors. However, Brosig, Weiman, and Yang, 2003, Camerer et al., 1996, Gueth et al., 2001, and Hoff et al., 1998 did find differences in behavior between "hot" and "cold" treatments.

To address this concern, I ran the norm elicitation experiment on a separate subject pool. In this second experiment, 66 subjects participated only in the norm elicitation experiment. However, the norm elicitation experimental design and procedure was the same.

I fit a regression model to test for a difference in the two methods of eliciting social norms:

$$Y_{ijkl} = \mu + \alpha_i + \beta_j + \gamma_k + \alpha * \beta_{ij} + \beta * \gamma_{jk} + \epsilon_{ijkl}$$

where Y_{ijkl} is the social appropriateness rating of ith Situation, jth action, kth method for the lth individual. We had four situations 1, 2, 4 and 5, four actions and two methods i.e. two separate subject pools. The results are listed in Table 3.13. The co-efficient for the Method variable was not significant. This implies that there is no significant difference in the elicitation of norms between the two subject pools. I also plotted the residual of the regression model against the two methods. There was no difference in the residuals between the two methods, as seen in, Figure3.2. This further suggests that there is no difference in the results between the two subject pools.

Figure 3.2   *Residuals vs. methods*

	Estimate	Std. Error	t value	P-value	
(Intercept)	-0.748	0.173	-4.322	1.58×10^{-5}	***
Low bribe	-0.789	0.222	-3.515	0.000444	***
Medium bribe	-1.732	0.222	-7.796	7.89×10^{-15}	***
High bribe	3.127	0.222	14.077	2.00×10^{-16}	***
Situation 1 citizen	0.798	0.235	3.39	0.000706	***
Situation 2 citizen	0.476	0.235	2.021	0.043333	*
Situation 2 officer	-0.188	0.235	-0.798	0.425187	
Situation 4 officer	1.473	0.236	6.251	4.46×10^{-10}	***
Situation 4 citizen	2.075	0.235	8.814	2.00×10^{-16}	***
Situation 5 citizen	1.821	0.235	7.738	1.24×10^{-14}	***
Situation 5 officer	1.471	0.235	6.252	4.44×10^{-10}	***
Method- worker pool	-0.165	0.173	-0.957	0.338532	

Multiple R-squared: 0.39, Adjusted R-squared: 0.3843, F-statistic: 67.52 on 42 and 4435 DF

Significant: '***' 0.01% '**' 1 % '*' 5 %'.' 10%.

Table 3.13   *Regression results: difference between two subject pools*

I did not include Situation 3 in the regression model. Situation 3 differs in terms of the action choices between these two experiment. For the "workers" subject pool, Situation 3 provides a description of the situation they encountered in Experiment 1. In the separate subject pool, the description of Situation 3 is similar but it is of a hypothetical nature to these subjects. The set of action choices are different in Situation 3 for the separate subject pool. Here, we explicitly mentioned that the amount of tokens by which the supervisor can cheat; I wanted to see whether a difference exists in social ratings between high and low stakes of cheating. In Table 3.14, I tabulate the mean ratings of the actions in Situation 3 in the two norm elicitation experiment. In Table 15, Action 1 in the "workers" norm experiment is comparable to Actions 1, 2 and 3 of this experiment. Action 2 and Action 6, Action 4 and Action 7, and Action 5 and Action 8 of this experiment and the "workers" norm experiment are comparable.

Separate pool		Worker	
Action	Mean	Action	Mean
1. under-reports by 1-3 answers	-0.2879	1. claim more and send less	-1.968
2. under-reports by 4-6 answers	-1.076	2. claim more and send nothing	-2.548
3. under-reports by 7-9 answers	-1.848	3. claim more and send exact	-0.2787
4. under-reports by 10-12 answers	-2.212	4. claim more and send more	0.5645
5. under-reports by 13-15 answers	-2.545	5. honest	2.452
6. under-reports by ¿ 15 answers	-2.909	6. claim exact and send less	-1.387
7. over-reports performance	-0.1364		
8. honest	2.697		

Table 3.14   *Distribution of appropriateness ratings of Situation 3 in the two separate subject pools*

3.5   CONCLUSION

I used a unique experimental method to measure the social norms about bribe giving and bribe taking in India for a common unethical behavior situation (i.e., obtaining a drivers license in India). The subjects judged the social acceptability of five different situations describing bribe-giving and bribe-taking actions to obtain a drivers license. We provided incentives to the subjects to provide not their personal appropriateness rating but what they thought others would judge the actions. This coordination game structure provided the social norms for the actions. We elicited the social norms on two different subject pools and conducted the

experiment on two different subject pools. The first pool of subjects was the "workers" in our Experiment 1 (i.e., the unethical experiment) who participated in the norms experiment after the first experiment (i.e., "hot" treatment). The second subject pool was a separate group of subjects who participated only in the norm elicitation experiment (i.e., "cold" treatment).

I found that the social appropriateness ratings are malleable to the prices of bribes. The modal response ratings received fewer responses for lower bribes whereas the majority of the subjects rated the higher bribe actions as inappropriate . Corruption being pervasive in India, social norms related to lower amounts of bribe and bribe taking are somewhat more relaxed than for higher amounts of bribes. We also found that when subjects are provided with the additional information that most of the officers at the drivers license office take bribes (i.e., the socially acceptable treatment), the social inappropriateness rating of bribe taking and bribe giving is higher than in the other treatment. When the perception of corruption is higher (i.e., corruption is socially acceptable), then the social, legal, and personal costs are reduced for engaging in corrupt activities. Therefore, the social acceptability ratings of bribe giving and bribe taking are lower in the socially acceptable treatment. However, in this paper, I could not separate the effects of the three channels on the social acceptability ratings of bribe giving and bribe taking. Future research can help to separate these channels. Finally, I found that bribe taking is socially more inappropriate than bribe giving for the socially acceptable treatment. There was no statistical difference between bribe giving and bribe taking in the no information situation. We also found no difference in the norms elicitation between the two different subject pools. A limitation of this study is the nature of the subject pool. I conducted this experiment with university students in India. However, to address this concern, I want to extend this study and conduct a field experiment with a random sample of subjects from the population of India.

CHAPTER 4.   SOCIAL NETWORKS AND NON-COGNITIVE SKILLS

Recent research in psychology and economics has documented the importance of non- cognitive skills for labor market outcomes. In this paper, I focused on a particular non-cognitive skillself-confidence in one's ability. I used economic experiments to measure participants' beliefs about their expected relative performance in a real-effort task using an incentive- compatible mechanism for belief elicitation. I combined self-confidence measures with a unique dataset on the social network of the participants to investigate whether there are peer effects in confidence. Indeed, I found that more confident participants tend to have more confident friends. Peer effects might be an important transmission mechanism for the acquisition of self-confidence. I therefore explored whether our finding is due to selection (confident participants choose confident friends) or social interaction (one's confidence is influenced by friends' confidence).

4.1   INTRODUCTION

Sociologists and psychologists have focused on the importance of non-cognitive skills as a significant determinant of professional success (Jencks, 1979; Wolfe and Johnson, 1995; Duckworth and Seligman, 2005). Economists have identified non-cognitive skills with factors that cannot be measured by observable measures of human capital but that affect our productivity (Heckman, 2000). Lately, economists have recognized the importance of non-cognitive skills like self-confidence, intrinsic motivation, teamwork, trust, cooperation, self-identity, and beauty on labor market outcomes like the wage premium, bargaining power, search mechanism, and also human capital attainment.

Self-confidence is an individuals own assessment of his or her ability. We not only value self-confidence, but also undertake strategies to gain confidence. Thinking positively about

ourselves helps us to gain positive utility. A self-confident person transmits a positive signal about his or her ability among peers. Self-confidence also motivates us to undertake challenging tasks. These three important channels that drive the demand for self-confidence put a "consumption value," a "signaling value," and a "motivation value" on self-confidence (Tirole and Benabou, 2002). A self-confident person is motivated to exert effort to enhance performance. The motivational channel helps to explain various economic interactions, explaining why people typically like to interact with self-confident co-workers, managers, employees, and teammates to the "self-doubting" (Tirole and Benabou, 2002).

Psychologists have often emphasized the importance of the psychological state of mind on performance[1] and that humans are frequently prone to biased perceptions[2]. Our psychological state is often affected by the recollection of past outcomes of an event. Distorted recollections of past events can lead to distorted ascriptions of the causes of successes or failures. Compte and Postlewaite (2004) showed that when confidence affects performance, agents with biased perceptions will have higher optimistic beliefs and can undertake risky projects that they otherwise would not have. The optimism leads to higher performance in these risky projects and they have a higher probability of success. Apart from these real effects of confidence on performance, confidence can have independent effects as well.

Niederle and Vesterlund (2007) found that men are more overconfident than women about their relative performance and these beliefs affect their entry decisions in tournaments. Falk, Huffman, and Sunde (2006) found in their experimental study that people are generally uncertain about their relative abilities. The more confident subjects are of being from a high type, the more frequently they engage in a costly search in the labor market[3]. Mobius and Rosenblat (2006) identified that physically attractive workers are more confident which in return increases their wages. Persico, Postlewaite, and Silverman (2004) showed how taller people have higher self esteem and earn higher wages.

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[1]Steele and Aronson (1995) show how stress reduces performance. Aronson, Lustina, Good, and Keough (1999), Ellis et al. (1997), McKenna and Lewis (1994) also talks about the importance of psychological state of mind on performance.

[2]Tversky and Kahneman 1973

[3]Women are less confident in their initial prior beliefs than men despite of better test performance which might lead to a different search outcomes because beliefs are important in the decision to continue search or not.

Persico et al. (2004), Kuhn and Weinberger (2005), Stevenson (2005) and Postlewaite and Silverman (2005) found that non-cognitive skills can be acquired either through learning, practice, experience, and participation in social activities. Postlewaite and Silverman (2006) showed that individuals acquire valuable marketable skills by participating in social activities. Their model predicts that social activities induce wider participation and generate higher average wages.

Most peoples cognitive approach to building confidence is to improve their skill sets. There are also non-cognitive means to increase self-confidence, some of which we are born with and some we acquire through social interactions. Mobius and Rosenblat (2006) identified physical attractiveness as one such inborn factor. Physically attractive workers are more confident, which in return increases their wages in the labor market. Persico, Postlewaite, and Silverman (2003) analyzed the well-known height premium and found that teenage height rather than adult height boosts income. Height boosts self-esteem, which promotes the acquisition of interpersonal skills, perseverance, and confidence. These non-cognitive skills crown the cognitive skills and provide a wage premium in the labor market. The self-help literature on positive thinking provides evidence regarding recognition of the income-enhancing effects of confidence. Parents are frequently reminded to use positive reinforcement in interactions with their children to build self-esteem and instill confidence in them.[4]. Team sports and group activities are encouraged not just because students benefit from physical activity but because they can enhance self-esteem[5].

A vast literature in economics has depicted the impact of peer effects on academic performance, mental health, criminal activity, smoking and drinking behavior, technology adoption behavior, and social behavior. Neidell and Waldfogel (2008) examined peer effects in early education by looking at the effects of peer enrollment in preschool on childrens non-cognitive outcomes and cognitive outcomes in kindergarten. For non-cognitive outcomes, preschool did not have a direct impact on peers but indirectly hindered cognitive achievement through its

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[4]There are certain childhood intervention programs such as the Perry preschool programs which raise lifetime earnings by improving the social skills and motivation rather than through gains in cognitive skills (Heckman 2000).

[5]Children are often times put with good kids since childhood to help them acquire good skills and qualities.

impact on individual behavior.

In this paper, I examined the peer influence on non-cognitive skill (i.e., self confidence. I have tried to answer whether our confident friends have a positive impact on our confidence level (treatment effect) or whether confident people choose to have confident friends (selection effect) and whether I can separate out the treatment and selection effect. This is the first experimental study that has attempted to answer these questions.

Manski, 1993 illustrated the problems with the identification of peer effects. First, individuals usually self-select into groups. Separating the peer effect on the individual and the self-selection effect of the individual is often difficult. Second, if peers affect each others behavior simultaneously, it is difficult to separate the actual causal effect that peers have on individuals. The third problem is segregating the "contextual effects" i.e., influence of exogenous peer characteristics on an individuals observed outcome and "endogenous effects" i.e., the influence of peer outcomes on an individuals outcomes.

The existing literature contains an emerging set of studies that has cleverly used random assignment of peers in college, for example, freshman year roommates or peers in their first year at a military academy to separate the peer and selection effect (Sacerdote, 2001; Zimmerman, 2003; Kremer and Levy, 2003; Winston and Zimmerman, 2003; Boisjoly et al., 2004, 2004; Foster, 2006; Stinebrickner and Stinebrickner, 2006; Sacerdote and Marmaros, 2006; Lyle, 2007). Results have been mixed, and peer effects appear to be stronger determinants of social than academic outcomes. The endogeneity problem is resolved by finding suitable instruments for peer behavior that are exogenous to the stochastic error component of the dependent variable. Case and Katz (1991) and Gaviria and Raphael (1999) used average behavior of peer parents as an instrument for peer behavior.

Mayer and Puller (2007) documented the structure and composition of social networks on university campuses and investigated the processes that lead to their formation. They found that similar characteristics of two students make the formation of a friendship more likely. Sharing the same major or the same political orientation made the formation of a friendship more likely. Friendships were more likely to form within their cohort than between the different cohorts. Friendships were also more likely to be formed within the same race. They found that

academic and social outcomes of students were associated with the outcomes of their friends. Marmaros and Sacerdote (2006), who used data on email communication between Dartmouth students, also found that race and distance on campus were important determinants of social interaction. Apart from demographic characteristics, social identity, proximity that matter for the formation of social networks, in this paper we investigate whether non-cognitive skills particularly self-confidence also matter fpr the formation of friendships.

We conducted this experiment in two parts. The first part had two stages. We primarily focused on the quiz stage and the belief elicitation stage in the first part. In the quiz stage, a subject completed an online IQ test where the questions were assigned with a random level of difficulty. During the belief elicitation stage, we provided each subject with incentives to indicate whether the subject was among the top half of performers. We measured each subjects belief about being among the top half of performers before the IQ quiz and after the IQ quiz. This provided us with the confidence measures on the subjects. In the second part, we measured the social network. The subjects were asked to mention their 10 best friends at the social network website Facebook. We obtained the confidence level of these friends from the first part of the experiment. The subjects of our experiment were undergraduates from Harvard. We found that individual ability has a significant correlation with ability of friends. However, there is no significant correlation between individual ability and peer ability for females. We then found a positive correlation between peoples confidence and the confidence level of their friends. This positive effect can be due either to the selection effect, whereby smarter people choose smarter friends, or the contagion effect (also called the treatment effect). To segregate the selection effect from the treatment effect, we separated our data into seniors, juniors, sophomores, and freshmen. If there were a causal relationship between our friends confidence and our confidence, the effect on the seniors would be stronger than the effect on the freshmen. The results suggest a causal relationship between our friends confidence level and our confidence level. In the quiz stage of the experiment the difficulty level of the quizzes were assigned randomly to the subjects. We used this randomly assigned quiz difficulty level as an instrument for peer behavior that is exogenous to the stochastic error component of the dependant variable. In both of these cases our results suggest a causal relationship between our

friends confidence and our confidence level. The main result in this paper suggests a positive correlation between peoples confidence and the confidence of their friends. The longer we are exposed to confident friends, the more confident we become.

In section 2 I describe the experiment. We then describe the summary data statistics in section 3 and finally explain our results in section 4.

4.1.1 EXPERIMENTAL DESIGN

This experiment consisted of two stages: the first stage where the subjects were asked to participate in a quiz to elicit their beliefs and the second (network elicitation experiment) where the subjects were asked to name 10 of their best friends.

4.1.1.1 NETWORK MEASUREMENT

For measuring the network, we used the trivia game technique. Subjects were asked to list 10 friends on Facebook. The computer program randomly selected some of these subjects friends and sent an email to the friend. The friend was asked to select the correct answer to a multiple-choice question (e.g., what time he gets up in the morning). Once a subjects friend answered the question, the subject received an email directing him or her to a web page with a fifteen second time limit to answer the same multiple-choice question about the friend. If the subject and the friend submitted identical answers, they both won a prize. This trivia game provides incentives to list friends whom you know well.

4.1.1.2 QUIZ STAGE

Subjects had 10 minutes to answer as many questions as possible out of 30. Since the experiment was web-based and different subjects took the test at different times the subjects were randomly assigned to one of nine versions of the IQ test. Subjects were informed that their performance would be compared to the performance of all other students taking the same test version. The tests consisted of standard logic questions, such as:

Which one of the five choices makes the best comparison? LIVED is DEVIL as 6323 is to (i) 2336, (ii) 6232, (iii) 3236, (iv) 3326, or (v) 6332.

A subjects final score was the number of correct answers minus the number of incorrect answers. Earnings for the quiz were the score multiplied by $0.25.

4.1.1.3 BELIEF ELICITATION STAGE

We have used the crossover mechanism to elicit beliefs. Subjects were at first presented with two options:

1. Receive $3 if their score was among the top half of scores (for their quiz version).
2. Receive $3 with probability $x \in 0, 0.01, 0.02, ...0.99, 1$

They were then asked for what value of x they would be indifferent between the two choices. The subjects were also presented this method in a simple narrative form for easy understanding. We said that the subjects are paired with a "robot" who has a fixed but unknown probability x between 0 percent and 100 percent of scoring among the top half of subjects. Subjects could base their chance of winning $3 on either their own performance or that of their robots and had to indicate the threshold level of x above which they preferred to use the robots performance. The subjects were informed that they would maximize their probability of earning the $3 by choosing as the threshold their own subjective probability of being in the top half.

4.2 DATA DESCRIPTION

There were 2,360 subjects for the network measurement game. The names of the 10 best friends were collected from these 2,360 subjects. Not all subjects of the network elicitation experiment participated in the first experiment. Only 948 candidates were common to both experiments. We performed our econometric analysis on these 948 candidates. The confidence of a person is his or her belief regarding own performance. Here we measured confidence using each subjects belief about being among the top half of performers six times before the IQ quiz. We created the confidence of his friends by summing the confidence levels of the 10 best friends. There were 1,057 participants in the first experiment. Of these, 578 were female and 479 were male. The median female candidate was 55 percent confident to be among the top half of all the participants whereas the median male candidate was 65 percent confident to be among the

top half. The men were more confident than the females. The median quiz score for the males was 7 whereas for the females the median quiz score was 6. There were 274 senior students, 293 juniors, 316 sophomores, and 175 freshmen. The median quiz score for the senior year was 7, junior year was 7, sophomore year was 6, and freshmen year was 7. The median confidence level for all the 948 candidates was 60 percent. There were 421 male and 527 female subjects in our final data. The median female candidate was 55 percent confident to be among the top half of all the participants whereas the median male candidate was 65 percent confident to be among the top half. The mean quiz score for the male subjects was 6.66 and for the female subjects it was 6.87[6]. Among these subjects, 249 were senior students, 275 juniors, 298 sophomores, and 126 freshmen. Among these students, 44.8 percent were assigned quiz types 1 5 (low level of difficulty), and the other 55.2 percent to quiz types 6-10 (high level of difficulty). The mean quiz score for the senior year was 7.21, junior year was 6.731, sophomore year was 6.52, and freshmen year was 6.73 [7].

4.3   RESULTS

A large body of literature in psychology, sociology, and economics highlights the importance of peer effects on educational attainment; social behavior like crime, health, smoking, adoption of technology, and consumption; and a wide array of other socio-economic areas. To measure peer effects, the standard approach in the literature has been to regress the individual behavior on peer behavior. However, the interpretation of these coefficients can be misleading. The selection effect (i.e., people choose their friends) is embedded in this analysis. This makes it difficult to separate out the selection effect (where we choose confident people as our friends) and peer effect (do our friends shape our social preferences?; do our friends make us confident?). Multiple studies have enumerated various empirical strategies that can be adopted to separate out these two effects[8].

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[6]The median quiz score for both the male and female subjects was 7

[7]The median quiz scores for the senior year is 7, junior year is 6, sophomore year is 6 and the freshmen year is 7.5

[8]Bruce Sacerdote has used the interesting fact that in the Freshman year roommates and dorm mates at Dartmouth College is randomly assigned .This random allocation of roommates helped them to separate the peer effect from the selection effect. His finding shows that peers have an impact on the grade point average and on decisions to join social groups such as fraternities. There has a large literature which has used instrumental

In this study we looked at how our friends' confidence affects our own confidence. In our experiment, the confidence level of the subjects was measured from the belief elicitation part of the experiment, which uses the crossover mechanism. Our friends can affect our confidence through selection effect i.e. we choose to be friends with confident people; or through the peer (treatment) effect i.e. being in contact with confident friends we become more confident. We tried to separate the selection effect from the treatment effect by checking for a differential impact on the confidence of subjects friends depending on which year the subject was at Harvard. If indeed there is a treatment effect, then the seniors and juniors, who have been in contact with confident friends for a longer time, would have a stronger effect on their confidence. This differential effect can be attributed to the treatment effect. The difficulty levels of the quizzes are randomly assigned to the subjects. We use this quiz type as an instrument in instrumental variable estimation to separate out the selection and treatment effect.

In the following sections, we enumerate the findings on the correlations between the individuals own confidence and his peers confidence and the causal relation that we found in our data.

4.3.1 CORRELATION WITH THE ABILITY OF FRIENDS

At first we wanted to see how our friends ability i.e. cognitive skills affect our cognitive skills. To check this, we regressed individual quiz scores on our friends quiz score controlling for gender and year.

$$Quizscore_i = \beta_0 + \beta_1 * gender + \beta_2 * averagefriendquizscore + \beta_3 * year + \epsilon_i$$

The dependent variable was the individuals score in the IQ quiz. The explanatory variables were the dummy for the gender of the participants, the average IQ quiz scores of all friends who participated in the trivia game, and the year the participant was at Harvard. The year was a categorical variable with four levels: 2005, 2006, 2007, 2008. The lower value for year indicated that the subject was a senior, and the higher value implied that the participant was

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variable approach to separate this effect[Case and Katz, 1991 and Gaviria and Raphael, 1999]

a freshman student. The response variable was the quiz score that the subject received for the number of quizzes he solved correctly. The difficulty level of each quiz was randomly assigned. In the network elicitation part of the experiment, the subject mentioned 10 of his best friends. We mapped the quiz scores of all these 10 friends. Some participants in the network elicitation game (Trivia game) were not part of the first stage of the experiment. Therefore, some of the quiz scores were missing. We used a correction factor (i.e., we multiplied the sum of the quiz scores of friends present in the data with the ratio of the actual number of friends, 10 here, and the number of friends present in the data). We used this corrected average quiz score of all the participants friends in our regression.

Explanatory Variables	Response variable: Individual quiz score		
	All subjects	Male	Female
Male	1.23***(0.319)		
Quiz score of all friends	0.036**(0.011)	0.25.(0.012)	-0.008(0010)
Year	-0.231(.160)	-.0676(0.293)	-0.007(0.34)
Quiz score for all male friends		-0.006(0.015)	0.002(0.002)
N	948	421	527
R	0.025	0.023	0.004

Significant: '***' 0.01% '**' 1 % '*' 5 %'.' 10%. The standard errors are reported in parentheses. This table shows the results for the regression run on quiz scores of the individual and the ability of the friends i.e. average quiz scores of the subjects friends, controlling for gender (male=1 female=0) and year (categorical variable with four levels 2005 represents Senior, 2006 represent Juniors, 2007 Sophomores, and 2008 is freshmen). Column 1 shows us the results for all the subjects, column 2 shows us the results only for male subjects and column 3 shows us the results for the female subjects.

Table 4.1 *Correlation with the ability of friends*

We also ran this regression separately for the male and female subjects. For this gender-specific regression, we divided the corrected total quiz score of all the participants friends into the corrected total quiz score of his male friends and the corrected total quiz score of his female friends. Here we used the correction factor (i.e., we multiplied the total quiz scores of his male friends present in the data with the ratio of the actual number of male friends and the number of male friends present in the data). We performed a similar correction with the female subjects. We used this corrected total quiz score for the participants male and female friends in our regression. Also, we controlled for the number of male and female friends the subject had.

The results are depicted in Table 3.1. Column 1 in Table 3.1 shows this correlation for all the

subjects. The result suggests that the individuals ability has a significant positive correlation (.035) with the peers ability. Columns 2 and 3 depict the results separately for regression run on males and females. There is no significant correlation between individual ability and peer ability for females. However, for the male participants the correlation is .025 (p < 0.10). However, we do not yet know whether this positive correlation is due to the selection effect (i.e., we choose smarter friends) or the treatment effect (i.e., our friends make us smarter). The positive correlation between an individuals ability and a friends ability is an important finding[9], as there can be differences in productivity if students of different abilities are grouped together.[10]

4.3.2 CORELATION WITH THE CONFIDENCE OF FRIENDS

After seeing the positive correlation between the individuals ability and friends ability, we next wanted to see how the non-cognitive skill (i.e., the self-confidence of the individual) is related to peer confidence. We ran a simple linear regression model to help us determine this correlation

$$Confidence_i = \beta_0 + \beta_1 * gender + \beta_2 * avgfriendquizscore+$$

$$\beta_3 * avgfriendsconfidence + \beta_4 * ownquizscore + \beta_3 * year + \epsilon_i$$

The response variable was the individuals confidence level. The explanatory variables were the dummy variables for gender, individual quiz score, average confidence of all friends who participated in the trivia game and for whom we have confidence data, average quiz score of all friends who participated in the trivia game, and the participants year at Harvard. The response variable was the confidence level that the subject mentioned in the belief elicitation

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[9]A large volume of literature in economics which shows how our achievement depends not only on our own ability but also on the ability of our peers' and that education policies like tuition vouchers can increase the relative size of the private sector and the extent of student sorting, benefitting high-ability students relative to low-ability students (Epple, D and Romano, R, 1998).

[10]Falk and Ichino (2006) found evidence of peer effects in their study. The study showed that the standard deviations of output are smaller within pairs than between pairs. Moreover, the average output is higher in the pair treatment: thus, peer effects raise productivity. Finally, low-productivity workers are the most sensitive to the behavior of peers.

part of the experiment before solving the IQ quizzes. The difficulty level of each quiz was randomly assigned. As mentioned earlier, we followed the same procedure to find the average quiz scores for all the participants friends. To calculate the average confidence level of the participants friends, we used the same correction factor (i.e., we multiplied the total confidence level of the participants friends present in the data with the ratio of the actual number of friends, 10 here), and the number of friends present in the data). We used this corrected average confidence level of the participants friends in our regression.

Explanatory Variables	Response variable: Confidence level		
	All subjects	Male	Female
Male	6.744***(1.227)		
Quiz score	0.2889 *(0.124)	0.33.(0.185)	0.268(0.166)
Confidence of friends	.01614 ***(0.005)	0.014*(0.006)	0.016*(0.007)
Quiz score for all male friends	-0.015(0.0192)	-0.022(0.027)	-0.010(0.003)
Year	-1.255 *(0.613)	-0.378(.901)	1.933*(.841)
N	948	421	527
R	0.061	0.02	0.03

Table 4.2   *Predicting the confidence of the participant*

The results are described in Table 3.2. The results suggest that the male subjects are more confident than the female which is consistent with the literature[11]. As seen in the literature[12]. this can also lead to different labor market outcomes in terms of search and bargaining. The significant result is that controlling for our cognitive ability, our friends confidence is positively correlated with our own confidence[13].

Next we wanted to see whether there is a difference in behavior between the male and the female subjects. The results are tabulated in columns 2 and 3 of Table 3.2. We found that regardless of gender, a subjects confidence is positively correlated with the confidence of all his or her friends. However, our results do not depict any causal relation between the individuals confidence and the confidence of his or her friends.

In all of the above analyses, we have used the confidence level that the subjects had elicited

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[11]Niederle and Vesterlund (2007) found that men are more over confident about their relative performance and these beliefs can explain their entry decisions in a tournament.

[12]Falk, Huffman and Sunde, (2006) found that gender differences in confidence can have implications for search outcome in labor market

[13]This provides an intuition of why parents often want to put their children with good peers. From our results, we also found that freshmen are more confident than seniors. There is a negative correlation between an individuals confidence level and the year at university.

before they took part in the quiz. Next, we checked for a difference in the correlation if we used the confidence level that the subjects had elicited after they took part in quiz. The results are shown in Table 3.3. They reinforce the positive correlation between the individual confidence level and peoples friends confidence. Hence, not only is individual performance related to peer performance, but also individual self-confidence is positively related to peer confidence, even after controlling for ability.

Explanatory Variables	Response variable: Confidence level after quiz
	All subjects
Male	5.541 ***(1.415)
Quiz score	1.312***(0.144)
Confidence of friends	.008 .(0.005)
Quiz score for all male friends	0.042(0.053)
Year	-0.3896(0.717)
N	948

Significant: '***' 0.01% '**' 1 % '*' 5 %'.' 10%. The standard errors are reported in parentheses. This table shows the results for the regression run on confidence of the individual, which was elicited after the quiz and the average confidence levels of the participants friends controlling for gender (male=1, female=0) and year (categorical variable with four levels; 2005 represents seniors, 2006 represents juniors, 2007 sophomores, and 2008 freshmen), individual quiz scores, and average quiz score of his friends. Column 1 shows the results for all the subjects.

Table 4.3   *Predicting the confidence: using the confidence measure elicited after they performed in the quiz*

4.3.3   CAUSAL RELATIONSHIP USING YEAR AT COLLEGE

So far in our analysis, we have not been able to separate out the peer effects from the selection effects. It might be that we choose to be friends with confident people or our friends make us more confident. The above correlations can depict either of these two effects. To find out whether there is a causal relationship between the individual confidence level and peer confidence, we tried to determine whether a difference of exists effects among the freshmen, sophomores, juniors, and seniors. If the relationship is causal, then the longer subjects are in contact with confident friends, the more confident they will be. We separated our data using the year variable into four parts for seniors, juniors, sophomores, and freshmen. As explained in the previous two sections, we ran a separate linear regression model for all the four years. The response variable was the individual confidence level before the quiz and the explanatory variables were the corrected total confidence level of the peers, gender, individual ability, and

ability of participants friends. As mentioned in previous sections, the individual ability was measured by the quiz scores of the individual, and the ability of their friends was the corrected total quiz scores of the participants friends. The results are shown in Table 3.4. The confidence of the juniors and seniors at Harvard is positively correlated with the confidence of their friends. The results suggest evidence of treatment effects. Keeping the selection effect constant, we can say that participants have been in contact with their friends for a longer time, and hence their friends make them more confident. However, for sophomores and freshmen, this relationship was not significant.

Explanatory Variables				
	Senior	Junior	Sophomore	Freshman
Male	4.062(2.585)	5.270*(2.08)	10.327***(2.14)	8.354* (3.45)
Quiz score	0.638*(0.255)	0.026 (0.204)	-0.070(0.235)	0.887**(0.321)
Confidence of friends	0.028**(0.0099)	0.020*(0.008)	0.005(0.009)	0.007(0.011)
Quiz score for all male friends	0.051(0.0397)	-0.040 (0.032)	0.013(0.039)	-0.125**0.044
N	249	275	298	126
R	0.10	0.03	0.08	0.12

Significant: '***' 0.01% '**' 1 % '*' 5 %'.' 10%. The standard errors are reported in parentheses. This table shows the results for the regression run on confidence of the individual and the average confidence levels of the individuals friends, controlling for individual quiz scores, sum of average quiz scores of friends, gender (male=1, female=0), year (categorical variable with four levels 2005 represents seniors, 2006 represent juniors, 2007 sophomores, and 2008 freshmen). Column 1 shows the results for all the seniors, column 2 shows the results for the juniors, column 3 shows the results for the sophomores, and column 4 shows the results for the freshmen candidates.

Table 4.4   *Predicting the confidence of the participant for different years*

4.3.4   CAUSAL RELATIONSHIP USING RANDOM ASSIGNMENT OF QUIZ TYPE

Underlying our analysis is a simple framework in which individual confidence level depends on his own level of cognitive ability, confidence level of friends, friends cognitive ability, gender and year. Undoubtedly, confidence is also affected by many other factors including parental influence, participation in social groups, etc. In the quiz stage of our experiment, the difficulty level of each quiz is randomly assigned to the subject. Therefore, as long as quiz type assignment is orthogonal to all of these other factors, we will be able to obtain unbiased estimates of the effects of friend's confidence. This method helps us to separate the treatment effect from the selection effect using a simple randomization of quiz types. We use the Instrumental variable

regression method to analyze the peer effect. The response variable is the individual confidence level and the explanatory variables are the corrected total confidence level of the peers, gender, individual ability and the ability of their friends, and the year of the subject. The randomly assigned quiz type is our instrument for friend's confidence. We can interpret the coefficient on the friend's confidence level as an estimate of the total effect of our friend's confidence on our confidence controlling for our ability as well as our friend's ability, year and gender. Given the random assignment of quiz types, we know that the coefficient on our friend's confidence is not driven by selection. It reflects the treatment effect. The results are shown in Table 3.5. The coefficient of the estimate of the peer confidence level is positive and significant. This indicates that there might be a causal relation.

Explanatory Variables	Response variable: Confidence level
	All subjects
Male	6.882***(1.227)
Quiz score	0.309*(0.124)
Confidence of friends	0.0133**(0.0045)
Quiz score of friends	-0.023(0.020)
Year	-1.286*(0.614)
N	948
R-sq	0.063

Significant: '***' 0.01% '**' 1 % '*' 5 %'.' 10%. The standard errors are reported in parentheses. This table shows the results for the IV regression ran on confidence of the individual and the average confidence level of the friends ,controlling for individual quiz scores, sum of quiz scores of his 10 best friend, gender (male=1 female=0), year (categorical variable with 4 levels 2005 represents Senior, 2006 represent Juniors, 2007 Sophomores, and 2008 is junior). The instrument is quiz type.

Table 4.5 *Predicting the confidence using IV estimation with quiz type as the instrument*

4.4   CONCLUSION

People might seek out friends with similar social preferences or our friends might affect our social preferences. Like race and distance, which were significant in past studies to determine a network of friends, here we found that confidence level can also be a factor forming the network of friends. This paper shows that our friends not only affect various real effects like choosing a major, participation in clubs, smoking behavior, consumption patterns, vaccination decisions, and technology adoption, but they also affect our confidence level. The more we are surrounded with confident friends, the more confident we become. Confidence is contagious. This study

has implications for labor market policies where workers productivity depends not only on their cognitive skills, but also on what kind of managers they have. If their managers are more confident people, then being around them will instill confidence among workers, and they might be more productive. For better real outcomes in a classroom, we can try to encourage students to participate with more divergent groups of both abilities such that confidence spreads. Future studies can aim to separate the selection effect from the treatment effect for other cognitive and non-cognitive skills, which can help in the design of education, organizational, and labor market policies.

CHAPTER 5.   CONCLUSION

The research agenda of my dissertation was to the measure the unobservables that affect labor market outcomes, social norms using economic experiments, and peer effects in non-cognitive skills. Research in experimental economics on corruption has primarily focused on bribery, cultural aspects affecting corrupt behavior, and designing incentives to fight corruption. There is limited research on self-selection to engage in corrupt behavior (Gangadharan et al., 2009). A separate strand of literature in experimental economics has investigated worker selection in different work cultures based not only on individual productivity but also on other intrinsic characteristics like preferences to work in teams, risk attitudes, social preferences, and self-assessment of individual ability. I merged these two strands of literature to study the issue of self-selection into the public vs. private sectors in India based on individual propensity to engage in unethical behavior.

In my first chapter, I designed a laboratory experiment to measure individual propensity to engage in unethical behavior following Villeval et al. (2012). I created an artificial environment of a firm in the laboratory where I divided subjects randomly into two groups: workers and supervisors. In this experimental design, the supervisors had an incentive to engage in unethical behavior. Finally, I linked the supervisors propensity to engage in unethical behavior to future career preferences. I conducted this experiment with university students in India who wanted to join either the public or the private sector.

The results of this experiment provide evidence of self-selection into the public vs. the private sector in India based on individual propensity to engage in unethical behavior. We found that 64.5 percent of the subjects engaged in unethical behavior. Out of this, 64 percent of the private sector aspirants compared to 70 percent of the public sector aspirants behaved unethically. There was no statistical difference in the proportion of subjects who behaved un-

ethically in the two sectors. However, the aspirants of the public and private sector differed statistically in the amount of cheating. The amount of cheating among the public sector aspirants was almost double that of the private sector aspirants. There might be sorting along other dimensions as well. However, the propensity to engage in unethical behavior is a significant predictor of future preferences to join the public vs. the private sector after controlling for demographic characteristics, family income, cognitive skills, altruistic preferences, competitive attitudes, and expectations regarding future income. I conducted this study at two large schools in India, a public school and a private management school. A limitation of this study is the small sample size and inability to separate the school effect. All the private sector aspirants mostly came from the management school whereas all the public sector aspirants come from the large public school. Also, we measured the subjects preferences to join the public vs. the private sector through a survey question and not their true outcomes. In future research, to address these concerns and to study the self-selection effect into the public vs. private sector, I want to conduct this study at a single school and follow the students until they make their real-life career decisions. The findings suggest that simply increasing the wages of bureaucrats might not be sufficient to tackle corruption. The influence of past policies can also affect the present policies on corruption. There must be stronger emphasis on attracting honest agents by making engaging in unethical behavior costly and rewarding honest behavior.

In my second chapter, I studied the social norms regarding bribe giving and bribe taking in India. Economists have widely studied the impact of social norms on corruption (Fisman and Miguel, 2007; Andwig and Moene, 1996; Tirole, 1996). Social norms are measured primarily by survey measures that are non-incentive-compatible. Norms are also studied indirectly by observing behavior in both experimental and observational studies (Fisman and Miguel, 2007; Fehr and Gachter, 2000). In this chapter, I proposed a novel experimental method following Krupka and Weber (2006) to measure social norms regarding bribe giving and bribe taking in India in a stylized common unethical behavior (i.e., obtaining a drivers license in India). We asked the subjects to rate the social acceptability of five different situations related to bribe taking and bribe giving in obtaining a drivers license following a coordination game. I wanted to see how the social norms varied when bribe giving and bribe taking is prevalent.

In one of the treatments, I provided the subjects with the additional information that most of the officers at the drivers license test center ask for bribes. We provided incentives to the subjects to truthfully reveal their thoughts about the common beliefs of the social acceptability of engaging in unethical behavior in these five situations. The subjects received a monetary payoff only when their acceptability rating matched the modal responses. This coordination game structure reveals the joint approval nature of social norms.

I found that the social acceptability rating varied with bribe amount. For lower bribe amounts, subjects were not able to coordinate on the social acceptability rating whereas higher bribe amounts were rated as socially unacceptable by most of the subjects. Indeed, there is a difference in perception of social norms regarding bribe taking and bribe taking when bribe taking is common. Subjects rated acts of bribe giving and bribe taking as less socially inappropriate in the socially acceptable treatment as compared to the other treatment where no information was provided to the subjects. Also, in the socially acceptable treatment, bribe taking was rated as more socially inappropriate than bribe giving. There was, however, no difference in the social acceptability ratings of bribe giving and bribe taking in the no information treatment. This study used an incentive-compatible mechanism to reveal the social norms about bribe giving and bribe giving and highlighted the role of educational campaigns (Hauk and Marti, 2002) in changing the social ethics regarding bribe giving and bribe taking.

In the third chapter, I studied the peer effects in non-cognitive skills, particularly self-confidence. In this study, I used the experimental data of Leider et al. (2009) to study the selection and treatment effects of peer effects in self-confidence. Sociologists and psychologists have widely studied the influence of non-cognitive skills in labor market outcomes. However, non-cognitive skills are hard to measure. Economists have named non-cognitive skills as factors that are hard to measure but affect our productivity in the labor market. I used economic experiments to measure the self-confidence of subjects about their relative ability in a real-effort task. Here subjects were asked to participate in a real-effort task and we provided them with incentives to reveal truthfully their beliefs about their relative performance in the real-effort task. We then combined these data with unique data on these subjects social networks to measure the peer effects. We found a positive correlation between the subjects confidence

level and the confidence level of his or her friends. However, the positive correlation can be due either to confident people choosing confident people as friends (i.e., selection effect) or to friends influencing the confidence level of the individual (i.e., treatment effect). We therefore tried to separate the selection effect from the treatment effect. We found preliminary evidence of the treatment effect in this sample. In a future study, I intend to follow a cohort of subjects for two years to map their entire social network and to separate the selection and treatment effects by using the panel data structure.

APPENDIX A.   ADDITIONAL MATERIAL-EXPERIMENTAL INSTRUCTIONS

INSTRUCTIONS FOR EXPERIMENT 1

A.0.1   SUPERVISORS INSTRUCTIONS

You are now taking part in an economic decision making study. We will pay you Rs 300 for participating but you can earn additional money depending on the decisions you and the others make. During the experiment you can earn money by receiving tokens.

All the tokens that you can earn in the experiment will be exchanged into rupees at the end of the experiment, The exchange rate is: 1 Token = Rs 0.50

At the end of the experiment you will receive the amount of money that you have earned during the experiment in cash. The experiment consists of several parts and a survey. Instructions for each part of the experiment will be handed out after you finish the previous one. The instructions will explain in detail what the respective part of the experiment is about. Please follow the instructions carefully. If you have any questions please let us know by raising your hand. We will answer your question in private.

In this experiment you will need to solve few math problems. Use of helping devices like calculators and cell phones is strictly prohibited. If you use a helping device, you will be immediately excluded from the experiment and from all payments. Please note that communication between participants is strictly prohibited during the experiment. Further instructions will be provided at the beginning of each step of the experiment.

We will give each one of you an identity number. Please do not lose your identity number. This entire experiment is anonymous. We will sometimes form pairs of two participants. The matching of two participants has been randomly determined in advance. You will never be

informed of the identity of the participant with whom you have been matched. You will not know the names of your partner.

We will use identity number for payment. If you lose your identity number we wont be able to pay you. Please raise your hands once you have read the questions.

A.0.1.1   PART 1: DESCRIPTION OF GAME 1

In this part each one of you is a Supervisor and you are paired with a Worker who is in the other room. Each one of you will receive a booklet filled out by the worker you are paired with. Nobody will ever be informed of the identity of the worker he/she is paired with. Your task is to count the number of correct answers in their Workers booklet. To do so, we provide you with the SOLUTION MANUAL which contains the list of correct answers to the problems.

The Workers booklet The workers booklet consists of simple math problem of the following type. It has boxes like this:

3.91	0.82	3.75
1.11	1.69	7.94
3.28	2.52	6.25
9.81	6.09	2.46

Table A.1   *Worker's puzzle*

The worker has to find a pair of numbers in the box that add up to 10. Having found the pair, they are required to encircle the corresponding numbers and put a tick into the box corresponding to Got it. In this example note that only 4.45 and 5.55 add up to 10. The booklet will contain 20 such boxes. The identity number of the worker is written at the top of the booklet.

Your Task

The SOLUTION MANUAL given to you contains the correct answers to the problems. In each box the correct answers are underlined and in bold face. Your role is to find the number of correct answers in the workers booklet with the help of this SOLUTION MANUAL. We will not monitor your work.

Description of Game 1

You will be paid 100 tokens for checking the workers booklet. Once you are finished checking the worker's booklet, put the booklet in the basket at the door and proceed towards the token counter located outside the room. At the token counter, ask for the total number of tokens that you need to pay the worker plus your 100 tokens. You just need to mention only one number to the cashier. Here you may choose to over-report and claim more tokens than you need. You will then return to your seat and put the number of tokens that the worker has earned in the envelope and seal it. The workers identity number is written at the top of the envelope. Then place the envelope containing the workers earnings on the table kept in front. Here you may choose to under-report and put fewer tokens in the envelope than the worker deserves.

Finally you will redeem the tokens that are left with you from the token counter at the end of the experiment along with the other earnings that you will receive in the subsequent games we will play. Note that when you ask for tokens at the token counter you may choose to do any one of the following :

Over-report to the cashier(i.e. claim more tokens than he needed) and pay less to the worker(i.e. put fewer number of tokens in the workers envelope than the worker deserves).

Over-report to the cashier (i.e., claim more tokens than needed) and be truthful to the worker (i.e., put the exact number of tokens in the workers envelope that the worker deserves).

Be truthful with the cashier (i.e., claim the exact number of tokens needed) and pay less to the worker (i.e., put fewer tokens in the workers envelope than the worker deserves).

Over-report to the cashier (i.e., claim more tokens than needed) and pay more to the worker (i.e., put more tokens in the workers envelope than the worker deserves).

Be truthful with the cashier (i.e., claim the exact number of tokens needed) and be truthful with the worker (i.e., put the exact number of tokens in the envelope that the worker deserves).

You will redeem these tokens from the token counter at the end of the experiment along with the other earnings that you will receive in the subsequent games we will play.

Example to show how to calculate earnings

The worker will get (number of correct answers you find in the booklet)*50 tokens. You earn 100 tokens.

For example, suppose the worker solves 19 problems correctly. Here the worker gets 19*50=950 tokens and you get 100 tokens. In this case, you may ask for 950+100= 1050 tokens.

Note that you can ask for any amount up to 1,100 tokens depending on the decision you make. You just need to mention 1,050 tokens to the cashier. Please note that your earnings in this part are completely unrelated to earnings in the next part.

Game 1 begins now..

Now please grade the booklet. Please go out to the token counter and claim the total number of tokens you need. Please put the workers earning in the envelope. Then put the booklet in the basket at the door and proceed towards the counter one by one. If you have any questions regarding these instructions, please raise your hand. We will answer to your questions in private.

A.0.1.2 PART 2

Welcome back.

Now we will play two games. We will randomly pick up one of these games by tossing a coin and the number of tokens that you will earn in that particular game will be en-cashed at the end. If the coin toss yields a Head then you will be paid based on your decision in Game 2 and if it is Tail then you will be paid based on your decision in Game 2. Note that you have a 50 percent chance of being paid for Game 1 and a 50 percent chance of being paid for Game 2. However, since you do not know in advance which round will be used, your decisions in these two games are equally important.

Part 2: Game 1 In this game each one of you is given 500 tokens. We will provide you with a list of five charities. We ask you to decide how much you want to give to one of these five charities given below. You can donate any amount including zero. For example if you decide to give 150 tokens then you get : 500 tokens-150 tokens= 350 tokens. If this round is

randomly selected by the coin toss then we will en-cash 350 tokens and pay you in cash at the end, while the 150 tokens will be en-cashed and sent to the charity you mentioned. Please fill in the following in the sheet called Part 2.

I want to give —- number of tokens to the —- charitable organization.

The list of potential charitable organization where you may donate the money to is given below with their respective addresses. We will calculate the total amount that has been donated to each charity right after the experimental session. A check will be written to each of the organizations in the corresponding amount and put in a sealed, stamped, and addressed envelope. The envelope will be posted by the end of the day. If the organization accepts online payment, we will pay online by the evening tonight.

1. Ramkrishna Mission. Contact address : The General Secretary, Ramakrishna Math and Ramakrishna Mission. P.O. Belur Math. Dist- Howrah. W.B. 711 202 India. Tel: (91) 33 - 2654 1144 / 1180 / 9581 / 9681. Fax (91) 33 - 2654 4346. E-mail: rkmhq@vsnl.com

2. Indian Red Cross Society. Contact address : Indian Red Cross Society, 1, Red Cross Road, New Delhi 110001, India. Tel: (+91-11) 23716441/2/3 Fax: (+91-11) 23717454,23717063 Web site : www.indianredcross.org

3. Prime Ministers National Relief Fund.Contact address:PMNRF,Prime Ministers Office,New Delhi 110011

4. Snehalaya(Associated with "Save the girl child project" with Satya Meva Jayate). Contact address:(Office) Snehalaya Bhavan, Opp Chitra Theatre, Near Mahatma Gandhi Maidan, Ahmednagar, Maharashtra, India. Pin - 414001. Telephone: + 91 241 2327593, + 91 241 2327555,+ 91 241 2778656 Fax: + 91 241 2323772. Online payment: NGO Account name: SJ-SHL. NGO Account No: 912010021691949

5. Missionaries of Charity. Contact address : 78 Acharya Jagadish Chandra Bose Road, Kolkata-700014, West Bengal , India. Telephone +91 33 22175267, +91 33 22640638.

Part 2: Game 2

In this game you will need to solve simple three digit addition problems. For example: What is 345+567? =912. You have 2 minutes to solve these addition problems. In these 2 minutes you will be given a booklet of 25 addition problems.You are encouraged to solve as many problems as you can.

Incentive Scheme Before we start this game, you need to make a decision. In this game, we will pay you using either of the following three wage schemes. If this round is randomly selected for payment at the end, we will use the wage scheme that you will choose now to pay you for this round.

1. Tournament Wage : You receive 400 tokens if you are among the top three performers.

2. Variable Wage : You will receive 20 tokens for each problem that you solve correctly during the work session.

3. Fixed Wage: You will receive a fixed amount of 200 tokens. It does not matter how many problem you solve.

Take a look at the example and decide your wage scheme.

Please indicate your choice of incentive scheme on the sheet called Part 2.

Task Session Your two minutes of task session begins now. You are encouraged to solve as many problems as you can. After the two minutes have passed, we will ring a bell. Please bring your booklet to the front and put it inside the box.

Exit Survey

Identity Number —-

1. Gender

2. Age

3. What is your area of study?

4. Are you an undergraduate, Masters, M Phil or PhD student?

5. What is your home state?

6. Do you belong to Scheduled caste/ Scheduled tribe/Other backward class category?

7. Does any of your family member work in the public sector and what is your relationship with that family member?

8. What is the approximate monthly income of your family?

9. What is your percentage of marks or CGPA?

10. Are you involved in student politics? Which political party/parties are you afliated with?

11. Do you receive any type of scholarship?

12. Do you want to join public/private sector service?

13. Are you preparing for the civil service examination?

14. How many times have you attempted to take the civil service examination?

15. What is your preferred choice of service once selected?

16. Are you working at present? Which organization are you working for?

17. Are you teaching in a college?

18. What is your expected salary for a future job?

19. How signicant do you think that corruption is in different spheres of your life and lives of your friends and

family around you?

(a) Political environment around you : 1. not at all common, 2. not very common,3. neutral, 4. somewhat common and 5. very common

(b) Business environment around you: 1. not at all common, 2. not very common,3. neutral, 4. somewhat common and 5. very common

(c) Job, recruitment and career progress :

1. not at all common, 2. not very common,3. neutral, 4. somewhat common and 5. very common

(d) Day to day affairs in your personal life : 1. not at all common, 2. not very common,3. neutral, 4. somewhat common and 5. very common

(e) Education system that you are or were part of : 1. not at all common, 2. not very common,3. neutral, 4.somewhat common and 5. very common

20. How often were you asked to pay a bribe by a public sector/ government ofcial? 1. Never 2. Once 3. Frequently

21. How religious are you? 1.Not Religious at all 2. Somewhat religious 3. Very Religious

22. When in need of public health services was it common for you or your family to contact a relative, friend, or friend of a friend who worked in the health service and/or offer favors/gifts to health workers in order to improve the speed or quality of the health service?

1. not at all common, 2. not very common,3. neutral, 4. somewhat common and 5. very common

23. When trying to secure a job in the public sector, was it common for people you know in your social network to contact a relative, friend, or friend of a friend already working in a position of authority in the sector and/or offer favors/gifts to those in authority? 1. not at all common, 2. not very common,3. neutral, 4.somewhat common and 5. very common

24. When trying to resolve a problem in the hands of the police, is it common for people whom you know in your neighborhood to contact a relative, friend, or friend of a friend working in the police force and/or offer favors/gifts to police ofcers?

1. not at all common, 2. not very common,3. neutral, 4. somewhat common and 5. very common

25. How common is it for you or your family and friends to pay a bribe to expedite a public sector process like getting a passport or driver's license etc.? 1. not at all common, 2. not very common,3. neutral, 4. somewhat common and 5. very common

A.0.2 WORKER'S INSTRUCTION

Introduction

You are now taking part in an economic decision making study. We will pay you Rs 300 for participating but you can earn additional money depending on the decisions you and the others make. During the experiment you can earn money by receiving tokens. All tokens that you can earn in the experiment will be exchanged into Rupees at the end of the experiment, The exchange rate is: 1 Token = Rs. 0.50

At the end of the experiment you will receive the amount of money that you have earned during the experiment in cash.

The experiment consists of several parts and a survey. Instructions for each part of the experiment will be handed out after you finish the previous part. The instructions will explain

in detail what the respective part of the experiment is about. Please follow the instructions carefully. If you have any questions, please let us know by raising your hand. We will answer your question in private.

In this experiment, you will have to solve a few math problems. Please do not use any helping devices like calculators or cell phones. Please note that communication between participants is strictly prohibited during the experiment. Further instructions will be provided at the beginning of each step of the experiment.

Each of you will be given an identity number. Please do not lose your identity number. This entire experiment is anonymous. We will sometimes form pairs of two participants. The matching of two participants has been randomly determined in advance. You will never be informed of the identity of the participant with whom you have been matched.You will not know the names of your partner.

We will use the identity number for payment. If you lose your identity number we wont be able to pay you. Please raise your hands once you have read the questions.

Game1 We have divided the total number of participants in this experiment session randomly into two equal groups: Workers and Supervisors. All the participants in this room are Workers. All the Supervisors are located in another room.

Booklet You will receive a booklet that consists of simple math problem of the following type. It has boxes like this:

3.91	0.82	3.75
1.11	1.69	7.94
3.28	2.52	6.25
9.81	6.09	2.46

Table A.2   *Worker's puzzle*

Your task will be to find a pair of numbers in the box that add up to 10. Having found the pair, you will circle the corresponding numbers and put a tick in the box corresponding to Got It. In this example, note that only 4.45 and 5.55 add up to 10. The booklet will contain 20 such boxes. The identity number of the worker is written at the top of the booklet.

You will have 10 minutes to complete the task. We will collect the booklet at the end of 10

minutes. Your time begins now....

Sending his answer sheet to Game 1 supervisor

We have randomly matched you with a Supervisor in the next room. Your booklet will be graded by that matched Supervisor. It is completely anonymous. Only the identity number is written on the booklet. You can earn extra money based on how the supervisors grades your booklet. Your Earning = (number of correct answers that the supervisor finds in the answer sheet)*50 tokens. The supervisor is paid 100 tokens for grading the answers. After checking the answers, the supervisor will ask for the tokens that is needed to pay you and him. The supervisors may ask for (Your earning+100) tokens from the cashier. However the supervisor can also exercise one of the options given below.

Over-report to the cashier(i.e. claim more tokens than he needed) and pay fewer to the worker(i.e. put less number of tokens in the workers envelope than he deserves).

Over-report to the cashier (i.e., claim more tokens than needed) and be truthful with the worker (i.e., put the exact number of tokens in the workers envelope that the worker deserves).

Be truthful with the cashier (i.e., claim the exact number of tokens needed) and pay less to the worker (i.e., put fewer tokens in the workers envelope than the worker deserves).

Over-report to the cashier (i.e., claim more tokens than needed) and pay more to the worker (i.e., put more tokens in the workers envelope than the worker deserves).

Be truthful with the cashier (i.e., claim the exact number of tokens needed) and be truthful with the worker (i.e., put the exact number of tokens in the workers envelope that the worker deserves).

This process is not monitored by anyone. The supervisors will then make a decision and submit it. Your identity number will be written on the top of the envelope. You will then receive your corresponding payment.

Please be seated until we get your answer sheets graded and then you will receive your payment. In the meantime please fill put this survey.

A.0.3 NORMS- WORKERS

Instruction and example

On the following pages, you will read descriptions of a series of situations. These descriptions correspond to situations in which a person must make a decision. For each situation, you will be given a description of the decisions encountered. This description will include several possible choices available to him.

After you read the description of the decision, you will be asked to evaluate the different possible choices available to him. You will have to decide, for each of the possible actions, whether taking the action described would be socially appropriate or socially inappropriate. By socially appropriate we mean the action is consistent with moral or proper social behavior i.e. most people agree that it is the correct or ethical thing to do. On the other hand by socially inappropriate we mean the action is inconsistent with moral or proper social behavior i.e. if he were to select a socially inappropriate choice, then others in the society might be angry at him for doing so.

In your responses, we would like you to answer as truthfully as possible, regarding the social appropriateness or social inappropriateness of each of the decisions. You are not being asked to rate according to your own view of appropriateness, but according to how you think society views the appropriateness of each choice. To give you an idea of how the experiment will proceed, we will go through an example and show you how you will indicate your responses. Lets see the example.

Example: Situation

Individual A is at a local coffee shop near campus. While there, Individual A notices that someone has left a wallet at one of the tables. Individual A must decide what to do. Individual A has four possible choices: take the wallet, ask others nearby if the wallet belongs to them, leave the wallet where it is, or give the wallet to the shop manager. Individual A can choose only one of these four options. The table below presents a list of the possible choices available to Individual A.

For each of the choices, please indicate whether you believe choosing that option is very

Individual As choice	Your Rating
Take the wallet	
Ask others nearby if the wallet belongs to them	
Leave the wallet where it is	
Give the wallet to the shop manager	

Table A.3   *Example of actions*

socially inappropriate, socially inappropriate, somewhat socially inappropriate, neither socially appropriate nor inappropriate i.e. value neutral, somewhat socially appropriate, socially appropriate , or very socially appropriate. Note there are seven categories of social appropriateness rating.

Note: You are not being asked to rate according to your own view of appropriateness, but according to what you think societys view is of the appropriateness of each choice.

If this were one of the situations for this study, you would consider each of the possible choices above and for that choice, indicate the extent to which you believe taking that action would be socially appropriate and consistent with moral or proper social behavior or socially inappropriate and inconsistent with moral or proper social behavior. Recall that by socially appropriate we mean behavior that most people agree is the correct or ethical thing to do.

For example, suppose you thought that taking the wallet was very socially inappropriate, asking others nearby if the wallet belongs to them was somewhat socially appropriate, leaving the wallet where it is was somewhat socially inappropriate, and giving the wallet to the shop manager was very socially appropriate. Then you would indicate your responses as follows:

Individual As choice	Your Rating
Take the wallet	very socially inappropriate
Ask others nearby if the wallet belongs to them	somewhat socially appropriate
Leave the wallet where it is	somewhat socially appropriate
Give the wallet to the shop manager	very socially appropriate

Table A.4   *Example of ratings of actions*

Are there any questions about this example situation or about how to indicate your responses? On the following pages, the situations deal with decisions that an individual has to make. For each situation, you will receive a sheet, with a table on which you are required to indicate your social appropriateness rating. For each situation, the experimenter will read a

description of the situation. You will then indicate whether each possible choice available to him is socially appropriate or socially inappropriate.

You are given five situations. At the end of the experiment today, we will select one of the five situations, by randomly drawing a number from 1 to 5. For this situation, we will also randomly select one of the possible actions that the person could take. Thus, we will select both a situation and one possible action at random. For the action selected, we will determine which response was selected by the most people here today. If you give the same response as that given by most other people, then you will receive an additional Rs. 300. This amount will be paid to you, in cash, at the end of the experiment.

For instance, if we were to select the example situation above and the possible choice Leave the wallet where it is, and if your response had been somewhat socially inappropriate, then you would receive Rs. 300, if this was the response selected by most other people in todays session. Otherwise you would receive nothing from this round. Please wait to turn the page until the experimenter asks you to do so. If you have any questions, please raise your hand and wait for the experimenter to come to you.

Situations Situation 1

A person goes to obtain driver's license at the local government office. The current official fees of obtaining a driving license for a car is 1000 rupees. He is asked to appear for a driving test. He fails the test and the officer sends him one of the following message. (i) Pay me 200 rupees and you will get the driver's license (ii) Pay me 500 rupees and you will get the driving license (iii) Pay me 700 rupees and you will get the driving license (iv) You will have to appear in the test again If the officer sends either of the messages (i), (ii), (iii) or (iv), then the person can either accept or reject the offer. For each of the actions (i), (ii), (iii) and (iv), please indicate your rating about social appropriateness of sending a particular message by the officer. Note: You are not being asked to rate according to your own view of appropriateness, but according to what you think societys view is of the appropriateness of each message. PLEASE WRITE THE RATINGS ON SHEET CALLED RATING BOOKLET. DO NOT MARK ON THIS INSTRUCTION SHEET.

The person can now either accept or reject the offers of the officer. For each of the choices:

Individual choice	Your Rating
Action (i): Pay me 200 rupees and you will get the driver's license	
Action (ii): Pay me 500 rupees and you will get the driver's license	
Action (ii): Pay me 700 rupees and you will get the driver's license	
Action (iv): You will have to appear in the test again	

Table A.5   *Instructions: Please rate the actions of the officer*

Accept or Reject made by the person who wants the driver's license, please indicate your rating about social appropriateness.

Individual choice	Your Rating
Accept the message (i)- Pay me 200 rupees and you will get the driving license	
Accept the message (i)- Pay me 500 rupees and you will get the driving license	
Accept the message (i)- Pay me 700 rupees and you will get the driving license	
Reject any of the messages (i)-(iii)	

Table A.6   *Please rate the actions of the driver's license applicant*

Situation 2

A person goes to obtain driver's license at the local government office. The current official fees of obtaining a driving license for a car is 1000 rupees. He is asked to appear for a driving test. He fails the test and he sends the officer the following message. (i) I will pay you 200 rupees and please give me the driver's license (ii) I will pay you 500 rupees and please give me the driver's license (iii) I will pay you 700 rupees and please give me the driver's license (iv) I will appear for the test again If the person who wants the license sends either message (i), (ii), (iii) or (iv), then the officer can either accept or reject the offer. For each of the choices (i), (ii), (iii) and (iv), please indicate your rating about social appropriateness of sending a particular message by the person wanting the driving license. Note: You are not being asked to rate according to your own view of appropriateness, but according to what you think societys view is of the appropriateness of each choice.

Individual choice	Your Rating
Action (i): I will pay you 200 rupees and please give me the driver's license	
Action (ii): I will pay you 500 rupees and please give me the driver's license	
Action (ii): I will pay you 700 rupees and please give me the driver's license	
Action (iv): I will appear for the test again	

Table A.7   *Please rate the actions of the driver's license applicant*

Now the officer can either accept or reject these offers made by the person who wants the driver's license. For each of the choices: Accept or Reject made by the officer, please indicate your rating about social appropriateness.

Individual choice	Your Rating
Accept if offered (i)- I will pay you 200 rupees and please give me the driver's license	
Accept if offered (ii)- I will pay you 500 rupees and please give me the driver's license	
Accept if offered (iii)- I will pay you 700 rupees and please give me the driver's license	
Reject any of the offers (i)-(iii)	

Table A.8 *Please rate the actions of the officer*

Situation 3 Suppose you have two group: workers and supervisors. Each supervisor is matched with a worker. The worker performs in a task and it is evaluated by the supervisor. The worker is given 20 simple math problems to solve. The worker is paid by the supervisor based on his performance. The worker earn Rupees 50 per correct answer. The supervisor is paid 100 tokens for checking the workers booklet. Once the supervisor is done checking the booklet of the worker, he has to ask for the total number of tokens that he needs to pay the worker. This process is not monitored by anyone. Therefore the supervisors can cheat as then he can keep more money for himself. The amount of cheating can vary between the supervisors. Note that when the supervisor asks for the tokens to pay the worker he may choose to do any one of the following :

1. He may Over-report at the token counter i.e. claim more tokens than he needs and Under-report the workers performance i.e. put less tokens in the workers envelope than he deserves. 2. He may Over-report at the token counter i.e. claim more tokens than he needs and be Truthful with the workers performance i.e. put the exact number of tokens that the worker deserves. 3. He may be Truthful at the token counter i.e. claim exact number of tokens he needs and Under-report the workers performance i.e. put less tokens in the workers envelope than he deserves. 4. He may Over-report at the token counter i.e. claim more tokens than he needs and Over-report the workers performance i.e. put more tokens in the workers envelope than he deserves. 5. He may be Truthful at the token counter i.e. claim exact number of tokens he needs and be Truthful with the workers performance i.e. put the exact number of tokens that the worker deserves. For each of the above decisions of the supervisor, please indicate your rating about social appropriateness of this action. Note: You are not being asked to rate according to your own view of appropriateness, but ac- cording to what you think societys view is of the appropriateness of each choice.

Decision of the supervisor

Table 5: Please rate the action of the supervisor Decision of the supervisor

1. He claims more tokens than he needs and sends less tokens to the worker than what he deserves. 2. He claims more tokens than he needs and sends nothing to the worker. 3. He claims more tokens than he needs and sends the exact number of tokens to the worker that he deserves. 4. He claims more tokens than he needs and also sends more tokens to the worker than what he deserves. 5. He claims the exact number of tokens that he needs and sends the exact number of tokens that the worker deserves. 6. He claims the exact number of tokens that he needs but sends less tokens to the worker than what he deserves.

Situation 4 A person goes to obtain driver's license at the local government office. The current official fees of obtaining a driving license for a car is 1000 rupees. He is asked to appear for a driving test. It is known that a majority of the officers at the driving test office ask for a side payment if the candidate fails the driving test. If asked to pay a side payment, almost all of the applicants agree to pay it. Now he fails the test and the officer also sends him the following message. (i) Pay me 200 rupees and you will get the driving license (ii) Pay me 500 rupees and you will get the driving license (iii) Pay me 700 rupees and you will get the driving license (iv) You will have to appear in the test again If the officer sends either of the messages (i), (ii), (iii) or (iv) then he can either accept or reject the offer. For each of the actions (i), (ii), (iii) and (iv), please indicate your rating about social appropriateness of sending a particular message by the officer. Note: You are not being asked to rate according to your own view of appropriateness, but according to what you think societys view is of the appropriateness of each choice.

Individual choice	Your Rating
Action (i): Pay me 200 rupees and you will get the driver's license	
Action (ii): Pay me 500 rupees and you will get the driver's license	
Action (ii): Pay me 700 rupees and you will get the driver's license	
Action (iv): You will have to appear in the test again	

Table A.9   *Please rate the actions of the officer*

The person can now either accept or reject the offers of the officer. For each of the choices: Accept or Reject made by the person who wants the license, please indicate your rating about social appropriateness.

Situation 5 A person goes to obtain driving license at the local government office. The

Individual choice	Your Rating
Accept the message (i)- Pay me 200 rupees and you will get the driver's license	
Accept the message (i)- Pay me 500 rupees and you will get the driver's license	
Accept the message (i)- Pay me 700 rupees and you will get the driver's license	
Reject any of the messages (i)-(iii)	

Table A.10   *Please rate the actions of the driver's license applicant*

current official fees of obtaining a driver's license for a car is 1000 rupees. He is asked to appear for a driving test. It is known that majority of the officers at the driving test office ask for a side payment if the applicant fails the driving test. If asked to pay a side payment, almost all of the applicants agree to pay it. Now he fails the test and he sends the officer the following message. (i) I will pay you 200 rupees and please give me the driver's license (ii) I will pay you 500 rupees and please give me the driver's license (iii) I will pay you 700 rupees and please give me the driver's license (iv) I will appear for the test again If Ali sends either of the message (i), (ii), (iii) or (iv), then the officer can either accept or reject the offer. For each of the actions (i), (ii), (iii) and (iv), please indicate your rating about social appropriateness of sending a particular message by Ali. Note: You are not being asked to rate according to your own view of appropriateness, but according to what you think societys view is of the appropriateness of each choice.

Individual choice	Your Rating
Action (i): I will pay you 200 rupees and please give me the driver's license	
Action (ii): I will pay you 500 rupees and please give me the driver's license	
Action (ii): I will pay you 700 rupees and please give me the driver's license	
Action (iv): I will appear for the test again	

Table A.11   *Rate the actions of the driver's license applicant*

Now the officer can either accept or reject these offers made by the person who wants the driver's license. For each of the choices: Accept or Reject made by the officer, please indicate your rating about social appropriateness.

Individual choice	Your Rating
Accept if offered (i)- I will pay you 200 rupees and please give me the driver's license	
Accept if offered (ii)- I will pay you 500 rupees and please give me the driver's license	
Accept if offered (iii)- I will pay you 700 rupees and please give me the driver's license	
Reject any of the offers (i)-(iii)	

Table A.12   *Please rate the actions of the officer*

A.0.4 NORMS- SEPARATE SUBJECT POOL

Instruction and example You are now taking part in an economic decision making study. We will pay you Rs 200 for participating but you can earn additional money depending on the decisions you and the others make.

On the following pages, you will read descriptions of a series of situations. These descriptions correspond to situations in which a person must make a decision. For each situation, you will be given a description of the decisions faced by him. This description will include several possible choices available to him. After you read the description of the decision, you will be asked to evaluate the different possible choices available to him. You will have to decide, for each of the possible actions, whether taking that action would be socially appropriate or socially inappropriate. By socially appropriate we mean the action is consistent with moral or proper social behavior i.e. most people agree that it is the correct or ethical thing to do. On the other hand by socially inappropriate we mean the action is inconsistent with moral or proper social behavior i.e. if he were to select a socially inappropriate choice, then others in the society might be angry at him for doing so. In your responses, we would like you to answer as truthfully as possible, the social appropriateness or social inappropriateness of each of the decisions. You are not being asked to rate according to your own view of appropriateness, but according to what you think societys view is of the appropriateness of each choice. To give you an idea of how the experiment will proceed, we will go through an example and show you how you will indicate your responses. Lets see the example.

Example: Situation

Individual A is at a local coffee shop near campus. While there, Individual A notices that someone has left a wallet at one of the tables. Individual A must decide what to do. Individual A has four possible choices: take the wallet, ask others nearby if the wallet belongs to them, leave the wallet where it is, or give the wallet to the shop manager. Individual A can choose only one of these four options. The table below presents a list of the possible choices available to Individual A.

For each of the choices, please indicate whether you believe choosing that option is very

Individual As choice	Your Rating
Take the wallet	
Ask others nearby if the wallet belongs to them	
Leave the wallet where it is	
Give the wallet to the shop manager	

Table A.13   *Example of actions*

socially inappropriate, socially inappropriate, somewhat socially inappropriate, neither socially appropriate nor inappropriate i.e. value neutral, somewhat socially appropriate, socially appropriate , or very socially appropriate. Note there are seven categories of social appropriateness rating. Note: You are not being asked to rate according to your own view of appropriateness, but ac- cording to what you think societys view is of the appropriateness of each choice.

If this were one of the situations for this study, you would consider each of the possible choices above and for that choice, indicate the extent to which you believe taking that action would be socially appropriate and consistent with moral or proper social behavior or socially inappropriate and inconsistent with moral or proper social behavior. Recall that by socially appropriate we mean behavior that most people agree is the correct or ethical thing to do. For example, suppose you thought that taking the wallet was very socially inappropriate, asking others nearby if the wallet belongs to them was somewhat socially appropriate, leaving the wallet where it is was somewhat socially inappropriate, and giving the wallet to the shop manager was very socially appropriate. Then you would indicate your responses as follows:

Individual As choice	Your Rating
Take the wallet	very socially inappropriate
Ask others nearby if the wallet belongs to them	somewhat socially appropriate
Leave the wallet where it is	somewhat socially appropriate
Give the wallet to the shop manager	very socially appropriate

Table A.14   *Example of ratings of actions*

Are there any questions about this example situation or about how to indicate your responses? On the following pages, the situations deal with decisions that an individual has to make. For each situation, you will receive a sheet, with a table on which you are required to indicate your social appropriateness rating. For each situation, the experimenter will read a description of the situation. You will then indicate whether each possible choice available to him is socially appropriate or socially inappropriate. There are five situations given to you. At

the end of the experiment today, we will select one of the five situations, by randomly drawing a number from 1 to 5. For this situation, we will also randomly select one of the possible actions that the person could take. Thus, we will select both a situation and one possible action at random. For the action selected, we will determine which response was selected by the most people here today. If you give the same response as that given by most other people, then you will receive an additional Rs. 300. This amount will be paid to you, in cash, at the end of the experiment. For instance, if we were to select the example situation above and the possible choice Leave the wallet where it is, and if your response had been somewhat socially inappropriate, then you would receive Rs. 300, if this was the response selected by most other people in todays session. Otherwise you would receive nothing from this round. Please wait to turn the page until the experimenter asks you to do so. If you have any questions, please raise your hand and wait for the experimenter to come to you.

Situations Situation 1

A person goes to obtain driving license at the local government office. The current official fees of obtaining a driving license for a car is 1000 rupees. He is asked to appear for a driving test. He fails the test and the officer sends him one of the following message. (i) Pay me 200 rupees and you will get the driving license (ii) Pay me 500 rupees and you will get the driving license (iii) Pay me 700 rupees and you will get the driving license (iv) You will have to appear in the test again If the officer sends either of the messages (i), (ii), (iii) or (iv), then the person can either accept or reject the offer. For each of the actions (i), (ii), (iii) and (iv), please indicate your rating about social appropriateness of sending a particular message by the officer. Note: You are not being asked to rate according to your own view of appropriateness, but according to what you think societys view is of the appropriateness of each message. PLEASE WRITE THE RATINGS ON SHEET CALLED RATING BOOKLET. DO NOT MARK ON THIS INSTRUCTION SHEET.

Individual choice	Your Rating
Action (i): Pay me 200 rupees and you will get the driving license	
Action (ii): Pay me 500 rupees and you will get the driving license	
Action (ii): Pay me 700 rupees and you will get the driving license	
Action (iv): You will have to appear in the test again	

Table A.15 *Instructions: Please rate the actions of the officer*

The person can now either accept or reject the offers of the officer. For each of the choices: Accept or Reject made by the person who wants the license, please indicate your rating about social appropriateness.

Individual choice	Your Rating
Accept the message (i)- Pay me 200 rupees and you will get the driving license	
Accept the message (i)- Pay me 500 rupees and you will get the driving license	
Accept the message (i)- Pay me 700 rupees and you will get the driving license	
Reject any of the messages (i)-(iii)	

Table A.16   *Please rate the actions of the driver's license applicant*

Situation 2

A person goes to obtain driving license at the local government office. The current official fees of obtaining a driving license for a car is 1000 rupees. He is asked to appear for a driving test. He fails the test and he sends the officer the following message. (i) I will pay you 200 rupees and please give me the driving license (ii) I will pay you 500 rupees and please give me the driving license (iii) I will pay you 700 rupees and please give me the driving license (iv) I will appear for the test again If the person who wants the license sends either message (i), (ii), (iii) or (iv), then the officer can either accept or reject the offer. For each of the choices (i), (ii), (iii) and (iv), please indicate your rating about social appropriateness of sending a particular message by the person wanting the driving license. Note: You are not being asked to rate according to your own view of appropriateness, but ac- cording to what you think societys view is of the appropriateness of each choice.

Individual choice	Your Rating
Action (i): I will pay you 200 rupees and please give me the driving license	
Action (ii): I will pay you 500 rupees and please give me the driving license	
Action (ii): I will pay you 700 rupees and please give me the driving license	
Action (iv): I will appear for the test again	

Table A.17   *Please rate the actions of the driver's license applicant*

Now the officer can either accept or reject these offers made by the person who wants the driving license. For each of the choices: Accept or Reject made by the officer, please indicate your rating about social appropriateness.

Situation 3 Suppose you have two group: workers and supervisors. Each supervisor is matched with a worker. The worker performs in a task and it is evaluated by the supervisor. The worker is given 20 simple math problems to solve. The worker is paid by the supervisor

Individual choice	Your Rating
Accept if offered (i)- I will pay you 200 rupees and please give me the driving license	
Accept if offered (ii)- I will pay you 500 rupees and please give me the driving license	
Accept if offered (iii)- I will pay you 700 rupees and please give me the driving license	
Reject any of the offers (i)-(iii)	

Table A.18   *Please rate the actions of the officer*

based on his performance. The worker earn Rupees 50 per correct answer. The supervisor is paid 100 tokens for checking the workers booklet. Once the supervisor is done checking the booklet of the worker, he has to ask for the total number of tokens that he needs to pay the worker. This process is not monitored by anyone. Therefore the supervisors can cheat as then he can keep more money for himself. The amount of cheating can vary between the supervisors. Note that when the supervisor asks for the tokens to pay the worker he may choose to do any one of the following : Each supervisor is matched with a worker. The worker performs in a real-effort task and the task is evaluated by the supervisor. In the real effort task the worker is asked to solve 25 simple math problems. The supervisor is given a certain amount of money to pay the worker. The supervisor's role is to pay the worker based on his performance. For each correct answer the payoff of the worker is rupees 50. After paying the worker, the supervisor keeps the remaining amount of money for himself. This process is not monitored by anyone. Therefore the supervisors can therefore cheat and keep more money for himself. The amount of cheating can vary because the supervisors can misreport the performance of the workers by any amount between 0-25 as there are 25 problems given to the workers. The supervisors can also be generous and over-report the performance of the workers. Given below is the list of strategies for the supervisors:

1. Supervisor under-reports the performance of the worker by 1-3 answers.

2. Supervisor under-reports the performance of the worker by 4-6 answers.

3. Supervisor under-reports the performance of the worker by 7-9 answers

4. Supervisor under-reports the performance of the worker by 10-12 answers

5. Supervisor under-reports the performance of the worker by 13-15 answers

6. Supervisor under-reports the performance of the worker by more than 16 answers

7. Supervisor over-reports the performance of the worker

8. Supervisor reports truthfully the performance of the worker.

Please indicate the social appropriateness rating for each of the following category of mis-reporting by the supervisor. You are asked to match your rating with what others in this room are thinking and not your own personal rating.

Situation 4 A person goes to obtain driving license at the local government office. The current official fees of obtaining a driving license for a car is 1000 rupees. He is asked to appear for a driving test. It is known that a majority of the officers at the driving test office ask for a side payment if the candidate fails the driving test. If asked to pay a side payment, almost all of the applicants agree to pay it. Now he fails the test and the officer also sends him the following message. (i) Pay me 200 rupees and you will get the driving license (ii) Pay me 500 rupees and you will get the driving license (iii) Pay me 700 rupees and you will get the driving license (iv) You will have to appear in the test again If the officer sends either of the messages (i), (ii), (iii) or (iv) then he can either accept or reject the offer. For each of the actions (i), (ii), (iii) and (iv), please indicate your rating about social appropriateness of sending a particular message by the officer. Note: You are not being asked to rate according to your own view of appropriateness, but ac- cording to what you think societys view is of the appropriateness of each choice.

Individual choice	Your Rating
Action (i): Pay me 200 rupees and you will get the driving license	
Action (ii): Pay me 500 rupees and you will get the driving license	
Action (ii): Pay me 700 rupees and you will get the driving license	
Action (iv): You will have to appear in the test again	

Table A.19 *Please rate the actions of the officer*

The person can now either accept or reject the offers of the officer. For each of the choices: Accept or Reject made by the person who wants the license, please indicate your rating about social appropriateness.

Situation 5 A person goes to obtain driving license at the local government office. The current official fees of obtaining a driving license for a car is 1000 rupees. He is asked to appear for a driving test. It is known that majority of the officers at the driving test office ask for a

Individual choice	Your Rating
Accept the message (i)- Pay me 200 rupees and you will get the driving license	
Accept the message (i)- Pay me 500 rupees and you will get the driving license	
Accept the message (i)- Pay me 700 rupees and you will get the driving license	
Reject any of the messages (i)-(iii)	

Table A.20   *Please rate the actions of the driver's license applicant*

side payment if the applicant fails the driving test. If asked to pay a side payment, almost all of the applicants agree to pay it. Now he fails the test and he sends the officer the following message. (i) I will pay you 200 rupees and please give me the driving license (ii) I will pay you 500 rupees and please give me the driving license (iii) I will pay you 700 rupees and please give me the driving license (iv) I will appear for the test again If Ali sends either of the message (i), (ii), (iii) or (iv), then the officer can either accept or reject the offer. For each of the actions (i), (ii), (iii) and (iv), please indicate your rating about social appropriateness of sending a particular message by Ali. Note: You are not being asked to rate according to your own view of appropriateness, but according to what you think societys view is of the appropriateness of each choice.

Individual choice	Your Rating
Action (i) I will pay you 200 rupees and please give me the driving license	
Action (ii) I will pay you 500 rupees and please give me the driving license	
Action (ii) I will pay you 700 rupees and please give me the driving license	
Action (iv) I will appear for the test again	

Table A.21   *Rate the actions of the driver's license applicant*

Now the officer can either accept or reject these offers made by the person who wants the driving license. For each of the choices: Accept or Reject made by the officer, please indicate your rating about social appropriateness.

Table A.22   *Please rate the actions of the officer*

Individual choice	Your Rating
Accept if offered (i)- I will pay you 200 rupees and please give me the driving license	
Accept if offered (ii)- I will pay you 500 rupees and please give me the driving license	
Accept if offered (iii)- I will pay you 700 rupees and please give me the driving license	
Reject any of the offers (i)-(iii)	

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