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Trust and Reciprocity: The Differing Norms of Individuals and Group Representatives

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Abstract

This paper presents evidence that trust and reciprocity behavior and perceptions is sensitive to whether people are making decisions solely on their own behalf or when they are given the responsibility to act on behalf of their groups. Employing the widely-used experimental framework of the trust game (Berg et al., 1995) with salient monetary payoffs, I examine and contrast the level of trust and reciprocity exhibited by individuals in inter-individual interactions with those exhibited by the same individual when he/she is responsible for a group decision. The results suggest that people trust less and reciprocate less when responsible for a group or organizational decision. I also explore perceptions about trust and reciprocity behavior of one's own and that of others in the study and find that there are disconnections between perspectives of parties involved about the interaction and the actual observed behavior. The evidence reported here, consistent with the idea that people are poor at making hypothetical predictions, highlights the disconnections between behavioral forecasts and behavior. Lastly, this paper also makes an important advance in our understanding of the norm of reciprocity. Theoretical and practical implications are offered.

Keywords: Trust, reciprocity, group representative, individual-group discontinuity, behavioral forecast.

1. Introduction

A strong and growing body of research suggests that trust and reciprocity are central components to many mutually beneficial interactions in organizational life. Indeed, in many cases, social interactions take place sequentially, where one party endures cost before obtaining the benefits. In theory, this future benefit can be governed by formal contracts or a sanctioning system. In practice, however, imperfect monitoring, information asymmetries, moral hazard, and transaction costs often make the use of binding contracts infeasible. Hence one has to rely on the goodwill of the other party to reciprocate and honor the trust (Arrow, 1974). As a result, the trust and reciprocity relationship, as a form of social capital, is critical to our society: 1) it promotes cooperative behavior in social interactions (Blau, 1964; Coleman, 1988; Gambetta, 1988; Zucker, 1986); 2) it decreases conflicts (Beersma & Dreu, 2002; Brown, 1992); 3) it enhances ad hoc work group formation (Creed & Miles, 1996; Mayer, Weick, & Kramer, 1996); and 4) it reduces opportunistic behavior, allowing firms to reduce transaction costs of intra- and inter-organizational exchange, ultimately resulting in more efficient governance and the achievement of competitive advantage (Barney & Hansen, 1995; Powell, 1990; Shapiro, 1987).

To date, most research in this area has conceptualized trust as a psychological state or an action exhibited by an individual or a party in an interaction. One of most widely-cited psychological definitions describes it as "a psychological state comprising the intention to accept vulnerability based upon positive expectations of the intentions or behavior of another" (Rousseau, Sitkin, Burt, & Camerer, 1998, p.395), while a behavioral definition of trust defines it as "a voluntary transfer of a good or favor to someone else, with future reciprocation expected but not guaranteed" (Gunnthorsdottir, McCabe, & Smith, 2002, p. 50). Reciprocity, on the other hand, has received relatively less attention in the literature, though more recently a few studies (e.g., Gunnthorsdottir, et al., 2002, Malhotra, 2004, Pillutla, Malhotra, & Murnighan, 2003) have examined it as a separate yet closely related construct to trust.

In line with such conceptualizations, the vast majority of empirical studies on trust and reciprocity in both social psychology and behavioral /experimental economics have focused on individual agents in the context of interpersonal interactions. In such studies, decisions to trust or reciprocate are made by individuals and only affect the individual decision-maker and his/her counterpart in the interaction. In

practice, however, individuals are often given the responsibility of making decisions on behalf of an organization or group (Carnevale & Pruitt, 1992; Friedman & Gal, 1991) and such decisions have impact on not only the individual decision-maker, but also the constituents the individual represents for, and the counterpart, who may also be a group or an organization. For example, the manager of a firm needs to decide on behalf of his/her firm whether to trust a competitor and accept its proposal to collaborate on the development of a new product. In situations like this, such an individual is viewed as the representatives of the group and the individual's decision have important implications for everyone in the firm. This raises an interesting and important theoretical question: do individuals trust / reciprocate more (or less) when they are given the responsibility to act on behalf of their groups in contrast to when they represent solely themselves?

A study by Kahneman, Knetsch, and Thaler (1986) indicated that people judge certain actions by firms as unfair, but parallel actions by individuals as fair. If people have different standards for individuals acting on their own behalf than for individuals acting on behalf of firms or organizations, they may also exhibit different behavior within these two different contexts. As Katona (1951, p.37) succinctly pointed out: "Psychological processes occur only in the individual being, not in the group; only the individual acts, not the group. But the individual does not act or think in the same way irrespective of whether he is or is not a member of group." Echoing Katona, Barley (1991, p.169) remarked, "In daily life, persons are almost always members of groups whose values and beliefs shape their behavior and cognition. People typically dispute and bargain as members of families, communities, cliques, and organizations, not as isolated actors whose judgments are unfettered by social relationships." Following such logic, notions of group membership and decision responsibility may have important implications for trust and reciprocity behavior and perceptions. Therefore, it is important to pay more attention to social interactions in which an individual is responsible for a group or organizational decision.

This paper contributes to the development of this line of research. Specifically, a primary goal of this research is to investigate norms of trust and reciprocity exhibited by individuals when responsible for a group or organizational decision. For that purpose, I employ a simple, one-shot trust game (Berg, Dickhaut, & McCabe, 1995) that has been used frequently to study trust and reciprocity (e.g., Malhotra, 2004,

Malhotra, & Murnighan, 2002; Pillutla, et al., 2003). The context of the game allows a potentially profitable interaction for all parties involved, making it relevant to many forms of strategic interactions between individuals or representatives of groups within the same or different organizations. The first theoretical focus of this study is an analysis of the effects of context on trust and reciprocity behavior. In order to control for individual differences, I use a within-subject design to compare the level of trust / reciprocity exhibited by a group representative in an inter-group interaction to that exhbited by the same individual solely on their own behalf in an inter-individual interaction.

The second research question deals with the role of beliefs and expectations, which are often considered as important predictors of behavior. I compare actual trust / reciprocity behavior with a particular type of belief / expectations, i.e., behavioral forecasts. Specifically, I collect behavioral forecasts by trustees of what they themselves would do had they been assigned as trustors (henceforth "trust self-forecast") and analogous forecasts of what their trustors would do (henceforth "trust other-forecast"). In the analogous fashion, I examine behavioral forecasts by trustors of what they themselves would do had they been assigned as trustees (henceforth "reciprocity self-forecast") and analogous forecasts of what their trustees would do (henceforth "reciprocity other-forecast"). In addition, in the group representative condition, I also ask participants to give behavioral forecasts of their group members, i.e. what their group members would do if they were representing the group to make the decision (henceforth "trust/reciprocity group-member-forecast"). I then explore whether there is a discrepancy in these behavioral forecasts and actual behavior. Along this line of inquiry, I also explore how trust expectations and the level of actual trust received influence the level of reciprocity.

The rest of the paper will proceed as follows. In the next section, I provide some theoretical and empirical foundations and formulate some hypotheses. In the third section, I discuss the specifics of the experimental design and procedures. The results of the laboratory experimental study are presented in the fourth section. The significance and limitations of the research and directions for future study are offered in the last section.

2. Theoretical and Empirical Foundations

In this section, I first review some relevant literature on the theoretical and experimental work on trust

and reciprocity, egocentric cognitive biases, group dynamics, and the discontinuity between inter-individual and inter-group relations. I then discuss the extent to which these issues are related to this current research topic and explore the predictions of these issues in this study.

2.1 Trust and Reciprocity: Theoretical Framework and the Experimental Game

Trust and reciprocity are intertwined because one's action prompts another's response, the anticipation of which in turn prompts the first party's action. Given such interactive complexity, knowledge about one party's trait or disposition is not sufficient for understanding the specific behaviors in the interaction. Rather, a game-theoretic approach emphasizing exchange, conflict, and interdependence in organizational and social life is more appropriate for studying such a phenomenon (Murnighan, 1994). A widely employed game-theoretic experimental framework, the trust game (Berg, et al., 1995), is adopted here to measure trust and reciprocity. The trust game is played as follows. Players are randomly assigned as either trustors or trustees and given a certain amount of endowment at the beginning of the game. A trustor decides how much of their endowment to send to an anonymous counterpart (trustee). All players are informed that each dollar sent would be tripled by the time it reaches the trustee. This tripling mechanism is designed as a way to model the essential characteristic of social exchange induced by trust: value generation. After receiving the money, a trustee then decides how to split his/her wealth, i.e., the sum of his/her initial endowment plus the tripled amount received, between him/herself and the trustor as an act of reciprocity.

The trust game models trust as a decision under risk, where the risk stems from social uncertainty, the possibility of either trustworthy or opportunistic behavior by the counterpart. Paradoxically, though trust is often viewed as contributing to a reduction of social uncertainty, such uncertainty is a necessary precondition for trust to play a significant role. Thus, trust in this game is operationalized as the willingness to bet that the other party will reciprocate a trusting (also risky) move. This operationalization, in accordance with Rousseau and colleagues' (1998) definition of trust, reflects, in a parsimonious way, the central element of a mixed-motive nature of a trustful act: expecting that the other party will honor the trust while simultaneously making oneself vulnerable to possible exploitation.

Another important theoretical feature of the trust game is that it explicitly disentangles two concepts that are sometimes treated as identical: 1) trust, defined as the willingness to trust and measured by the amount sent by the trustor, and 2) reciprocity, defined as the willingness to honor the trust received and measured by the ratio between amount sent by the trustor and the amount sent back by the trustee. In essence, the trust game is a prisoner's dilemma game played sequentially: the first player cooperates, exposing himself to possibly earning a lower payoff, and trusting the other player to reciprocate by cooperating back; the second player, having the knowledge of the first player's move, makes a decision to cooperate or defect. In prisoner's dilemma games, game-theoretic "rational" behavior, i.e. competition or defection, could be attributed to either greed (self-interest) or fear of non-cooperative behavior of the other party in the game. In this trust game, with the sequential mover feature, defection by the trustee could not be attributed to fear of non-cooperative behavior of the other party in the game but only to self-interest. In other words, reciprocity and self-interest are incompatible in the trust game and represent opposite poles of a continuum. Consequently, this game offers a richer structure than a simultaneous, dichotomous-response prisoner's dilemma game, providing a particularly sharp and parsimonious test for trust and reciprocity behavior.

A standard starting point for the analysis of such a game is based on traditional, non-cooperative game theory with its fundamental assumption that individuals are self-interested and utility maximizing. The game captures a one-shot, anonymous exchange in which participants have no history with each other or possibility of future interaction. The experimental setting involves no institutional mechanism other than the abstract setting of an experimental laboratory. Consequently, informal sanctions based on embedded social relations (Granovetter, 1985) are unlikely to have any impact on the game's outcome. Trustees, self-interested and motivated to maximize their utility as assumed, would send no money back to senders. Using backward induction, rational trustors should not expect trustees to send anything back since there is no way of penalizing opportunistic behavior. Thus, trustors should send nothing to trustees. Hence the game-theoretic null hypothesis predicts no trust or reciprocity behavior in such an experimental setting. Many empirical studies using this trust game studying interpersonal trust and reciprocity have, in contrast, produced robust results indicating that many individual trustors send nontrivial amounts to

individual trustees, who in turn send nontrivial amounts back. Average amounts sent in previous studies ranged from 40 to 60 percent and amounts returned averaged 110 percent of the amounts originally sent (Camerer, 2003). Such findings are in apparent contradiction to the null hypothesis derived from the game-theoretic model and have been attributed to individual propensities to trust and to reciprocate, social norms and moral sentiments.

In this current study, I compare how much each person sends /sends back to the counterpart both as an individual and as a group representative. Since the strategic structure of the game is not affected by this experimental manipulation, the game-theoretic null-hypothesis remains the same, namely the trustor, whether being an individual in an inter-individual interaction or a group representative in an inter-group interaction, should send no money to the trustee, who, whether an individual or a group representative, should send nothing back. Since earlier studies on this game already demonstrated that individuals do not behave in this game-theory consistent way, so the focus in this paper is whether group representatives' behavior will be more or less consistent with game-theoretic prediction.

2.2 Egocentric Bias and its Effect

Numerous studies in social psychology, negotiations and strategic interactions research have identified a number of pervasive cognitive errors that bias decision-making. This current research will look at the effect of a particular cognitive bias on trust and reciprocity relations. The cognitive bias examined here is the positive illusion bias (Taylor, 1989; Taylor & Brown, 1988). People typically believe that they are better than others in terms of desirable attributes, i.e., more selfless, kind, and generous, than others (e.g., Epley & Dunning, 2000; Miller & Ratner, 1998). Of course, this self-aggrandizing self-image is statistically and logically erroneous! What cognitive errors do people make that lead to this self-serving bias? In a series of five attitude studies Miller and Ratner (1998) demonstrated, in contrast to self-reported attitudes, people consistently overestimate the influence of self-interest on attitudes of other people**.** Other research also suggests that people often have idiosyncratic, self-oriented sets of information and perspectives, making it difficult to accurately assess others' intentions and behavior (e.g., Bazerman, 1994; Samuelson & Bazerman, 1985; Snijders, 1996). In line with this logic, it is conceivable that people will be less accurate when estimating the level of

trust/reciprocity of others. This under-estimation bias, if supported, is noteworthy here. When responsible for a group or organizational decision, if group representatives fall prey of such a cognitive bias, they may adjusts their behavior to reflect what they think the rest of the group would do in the situation.

Following this line of logic, I hypothesize that participants will exhibit the "better-than-others" cognitive bias.

Hypothesis 1 - In both the individual and group representative conditions, participants will believe that they are more trusting /reciprocating than other people.

I then contrast other-forecasts of trust and reciprocity behavior with actual behavior observed in this trust game. Thus, I test whether there is a disconnection between behavioral forecasts and actual behavior.

Hypothesis 2 – Other-Underestimation: Compared to the actual behavior observed in the experiment, participants will underestimate the level trust/reciprocity of others.

Lastly, to directly examine the implicit justification for behaving in a less trusting/reciprocating manner when acting on behalf of a group, I predict that there will be a positive correlation between one's group member-forecast and his/her behavior when acting on behalf his/her group.

Hypothesis 3 – Group Representative Effect: The less one *predicts* the level of trust/reciprocity of his/her group members, the less will he/she *behaviorally exhibit* the level of trust/reciprocity as the group representative.

2.3 Interindividual-Intergroup Discontinuity Effect on Intergroup Behavior and Perceptions

Contemporary views of organizations have frequently drawn attention to the competitive and conflictual view of intergroup relations (e.g. Blake, Shepard, & Mouton, 1964; Cyert & March, 1963; March & Simon, 1958). This view is corroborated with much robustness in empirical studies, from longitudinal field studies to the most minimal intergroup interactions in laboratory settings. Most notably, a series of recent studies systematically compared inter-individual and inter-group interactions within the context of Prisoner's Dilemma games (e.g., Insko, et al., 1987; Schopler, et al., 1991; Wilschut, Lodewijkx, & Insko, 2001). In many of those studies, group decisions were made by asking individual group members to cast a vote for cooperation or defection. The group decision was then determined by

the majority vote. These studies have provided evidence that inter-group relations are more competitive than inter-individual relations in situations where strategic considerations are important. This phenomenon has been labeled as the *interindividual-intergroup discontinuity effect* and appeared robust under a wide variety of conditions.

In addition the work of Insko and colleagues cited above, which contrasted individual versus group behavior, negotiation research has also found that when representing a constituency, negotiators may operate more aggressively than when representing only themselves (Bazerman, Neale, Valley, Zajac, & Kim, 1992). For example, representatives are found to make high demands and be less willing to concede to an opponent to the extent that they believe that their constituents are anxious to win *(*Mosterd, & Rutte, 2000). Therefore, representatives are found to be more aggressive than negotiators acting on their own behalf.

Schema-based fear, anonymity, and greed, all of which are absent, or reduced in inter-individual interactions, have been proposed to explain the inter-individual-group discontinuity effect. In terms of schema-based fear, it is argued that the anticipation of interacting with another group activates an outgroup schema, an *a prior* assumption consisting of learned beliefs and expectations that intergroup interactions are aggressive, deceitful, and competitive. Such an outgroup schema rationally implies that one's own group should also be more competitive as otherwise one's own outcome will be harmed. In regard to anonymity, the intergroup dynamics necessarily makes it more difficult for an interaction partner to assign personal responsibility for counter-normative competitive behavior in intergroup interactions than in interindividual interactions. This argument is similar to Snyder's attribute ambiguity theory (Snyder, Kleck, Strenta, & Mentzer, 1979), which argues that people are more likely to behave in a self-interested manner in situations where it is less clear that the behavior is self-interested. As for greed, it is argued that an inter-group situation may create an illusion of social support for self-interest. Such social support, of course, is necessarily absent for individuals. Hence, self-interested behavior may increase and reciprocating behavior, which is costly to the actor, decrease in the context of the inter-group interaction. Perhaps ironically, in such situations, people may have a self-serving illusion that it is "altruistic" to be self-interested on behalf of their group members and themselves. This is especially true

if, as discussed earlier, people generally overestimate the self-interest of others, including their fellow group members. This argument seems to apply even more clearly within the context where decisions are made solely for oneself in one condition and on behalf of one's group in another. Given that there is a monetary incentive to exploit trust, reciprocity is costly to trustees. Hence, a reciprocity act goes against one's self-interest and the "social-support-for-self-interest" effect leads to a reduced level of reciprocity in group representatives as opposed to individuals. The following two hypotheses summarize the predictions for behavioral discontinuity of trust and reciprocity between individuals and group representatives.

Hypothesis 4 - Behavioral Discontinuity for Trust: Participants will exhibit less trust toward a counterpart as group representatives than as individuals in the analogous situation.

Hypothesis 5 - Behavioral Reciprocity Discontinuity: Participants will exhibit less reciprocity toward a counterpart as group representatives than as individuals in the analogous situation.

2. 4. Reciprocity

Previous research suggested that both trust expectations the level of trust initiated by the trustor influence the level of reciprocity. Croson (1996), using the ultimatum bargaining game, found that participants formulated expectations prior to receiving offers and whether actual offers matched those expectations determined their reactions to those offers. In a recent study conducted by Pillutla et al. (2003), the authors examined the relationship between the level of trust received and the level of reciprocity exhibited by trustees. The results of their study showed a non-linear relationship between these two variables: the level of reciprocity increases exponentially with the increase in the level of trust. The authors argued that such an effect is due to the fact that trustees view sending less than everything as a lack of trust and thus felt less obligated to reciprocate generously in such situations. Following this line of research, I further explore this issue by looking at the effects of the trustee's *expected* level of trust, the *actual* level of trust received, and the difference between the *expected* and the *actual* trust level on the level of reciprocity exhibited by the trustee. I expect that both the expectation and the actual trust received influence the level of reciprocity, as demonstrated in earlier studies. More importantly, I

argue that when people are pleasantly surprised by a higher-than-expected trust, they will reciprocate due to the gift-exchange motivation. Thus, I hypothesize that the unexpected trust, namely higher-than-expected trust will also have an impact on reciprocity.

Hypothesis 6 - Behavioral Reciprocity: There will be a positive relationship between the magnitude of higher-than-expected trust and the level of reciprocity.

3. Methodology

3.1 Participants

Undergraduate business students at a large metropolitan University were randomly recruited in a campus caferia. They were informed at the time of the recruitment that they would receive money for their participation and performance. A total of 108 students (51 men, 57 women) volunteered and received cash payments for participating in the experiment. Participants' average age was 20.34 (S.D. =1.48).

3.2 Experimental Design and Manipulation

Based on the experimental framework of the trust game, this study examined the effects of two manipulated factors. The first is a between-person factor: the random assignment of participants to the trustor or the trustee role in the game. The between-person random assignment of participants as trustors or trustees allows me to gather trust/reciprocity behavior and self-, other-, and group member-forecasts of such behavior. More importantly, trustors' responses to the questionnaire were collected as measures of reciprocity behavioral forecasts and trustees' responses to the questionnaire as measures of trust behavioral forecasts. Thus, the behavioral and behavioral forecast data were collected separately with no cross-contamination. Both behavioral and behavioral forecast measures are the dependent variables.

The second factor is a within-person design of two experimental conditions: the individual and the group representative conditions. The within-person factor is an important feature of this study. It is adopted for the purpose of controlling for individual differences in trust/reciprocity preferences. Specifically, each participant, either as a trustor or a trustee, sequentially made two decisions, one as an individual agent, and the other as a group representative. The order of the two conditions was reversed and

counterbalanced in order to isolate individual versus group-representative effects from ordering effects of the two decisions. Subsequent analysis revealed no order effect as there were no significant differences between the two orderings for any of the dependent variables in regard to trust/reciprocity behavior and behavioral forecasts. Therefore, I dropped order as a control variable and pooled the data for subsequent analysis.

In the individual condition, each trustor was randomly and anonymously assigned to a trustee. Both the trustor and the trustee received $5 endowment. In the group-representative condition, trustors were randomly assigned into three-person trustor groups. Similarly, trustees were randomly assigned into three-person trustee groups. Each trustor group was then randomly assigned to a trustee group. To keep individual stakes equal in both of the experimental conditions, each trustor group and trustee group received $15 endowment and was informed that three members on the group would evenly split the payoffs at the end of the game. Each individual trustor then made a decision on behalf of his/her three-person group autonomously and privately. One of these three decisions was chosen at random to be implemented as the amount sent to the trustee group by the trustor group. All three members in the trustee group would then receive the implemented amount and decide autonomously and privately how much to send back to the trustor group.

In order to avoid possible confound of effect of multiple rounds, the following procedures were implemented. First, participants were not told the number of decisions they were asked to make at the beginning of the experiment, neither were they informed in the second condition that it was the last condition in the experiment. Second, the outcomes for the first condition were not revealed to the participants till the very end of the experiment, i.e., after they completed the second condition and post-experiment questionnaire. However, due to the structure of the game, individual trustees always knew the result of an interaction as soon as they made their choice. Third, participants were informed at the beginning of the second condition that there were two random pairings in the experiment, i.e. participants were matched with different people in the two experimental conditions.

Asking each group member to make a decision as a group representative prior to determining by a random process which decision to implement is an example of the strategy method of gathering decision data (e.g., Selton, 1967). It allows data to be gathered not only at observed decision nodes, but also at unobserved nodes of the game. It permits the collection of group-representative data from each of the participants who made an analogous decision in the individual condition, thus balancing the amounts of data collected under the two conditions of the within-person factor. Since each potential group-representative makes a decision that has a third of the chance of affecting the outcome based on a $15 endowment, it also keeps the expected stakes and financial saliency constant between the two conditions. A possible disadvantage is that such a procedure could reduce the psychological saliency of the decision made in the group-representative condition. Both Cason and Mui (1998) and Brandts and Charness (2000) recently examined this issue empirically. Both studies concluded that in games of low complexity there is no difference in behavior when such a manipulation was adopted. Nonetheless, such a reduction in saliency cannot be ruled out.

3.3 Experimental Procedure

Upon arriving at the experiment site, participants were asked to pick an identification card out of a box, which determined their participant codes and assignments as either "BLUE" or "RED" roles (trustor and trustee respectively). In order to avoid possible framing effects[1], the word "trust" was not mentioned at all during the experiment and the neutral terms of BLUE and RED participants were used instead of terms such as trustor/trustee, sender/receiver, or partner/opponent. Participants were then escorted to the assigned BLUE or RED room where they stayed for the remainder of the experiment. Thus, trustors and trustees never met each other throughout the experiment.

[1] Burnham, McCabe, and Smith (2000) conducted an experiment using the trust game to examine the specific framing effect that human subjects have a preconscious friend-or-foe (FOF) mental mechanism for evaluating the intentions of another person. In their experiment, instructions were used to weakly prime the FOF state: when referring to the person that an individual is matched with, the word "partner" was used in one treatment and "opponent" in the other. This treatment produced a significant difference in trust and trustworthiness behavior in repeated interactions over time. Trustworthiness with "partner" is over twice that for "opponent", and this reinforces trust.

Upon entering the respective rooms, participants were grouped with two other randomly-chosen participants. Each group engaged in a group-building exercise: they were given five minutes to complete a group task which consisted of three short riddles and a multiple-choice reading comprehension question. After completing the group task, they were also asked to create a name for their group, write the name on name tags, and place the name tag on their desk for the rest of the experiment. These group-building tasks had nothing to do with the experimental task. Their only function was to produce some sort of group kinship and identity. Participants were not told the motivation for the group-building task, but only that these questions would have no bearing on their experimental earnings. Upon completion of the group-building task, participants were asked to go back to their individual seats and not communicate with anyone including their group members for the rest of the experiment.

All participants then received the same general instructions about the trust game. They were informed that the experiment involved a game about social interactions, in which they would either play the "Blue" or the "Red" role. The game was illustrated with several numerical examples in the instructions. The instructions were read aloud to the participants and they were then given time to raise questions. Participants were also told that they would remain anonymous during the experiment (they were only identified by their unique participant codes), and that they would get paid at the end of the game based on the decisions they made and those made by another participant during the game. A decision record form was employed for trustors and trustees, who were seated in two separate rooms, to communicate their decisions to each other. Such decision record forms were delivered in envelopes. There were three research assistants, two of whom were in the two rooms where participants were seated while the third sat in the control room recording all the decisions. This decision communication procedure ensured double-blind anonymity, an important experimental control to minimize confounding effects such as self-presentation and social desirability.

Trustors first made decisions on how much to send to their counterparts and then filled out the reciprocity behavioral forecast questionnaire. Trustees, while waiting for their counterparts' decision to arrive, first filled out the trust behavioral forecast questionnaire. At the end of the experiment participants

were asked to complete a short post-experiment questionnaire for demographic background information. After completing the questionnaire, participants were paid individually in the experimental control room to protect their anonymity. Each session took approximately 1.5 hours and participants earned on average $17 Canadian (1 Canadian Dollar is equal to approximately 0.75 USD). This amount is equivalent to or higher than an average wage of $8 to $10 an hour for work-study jobs on campus.

4. Data Analysis and Results

4.1 Data Overview

The results of this experiment once again rejected the game-theoretic null hypothesis, showing that people do trust and reciprocate in a laboratory trust game with salient rewards. Table 1 summarizes the data and the overall trends of the data are illustrated in Figure 1. Overall, the grand means suggest that people trust and reciprocate less, even though they don't predict they themselves would trust and reciprocate less nor did they expect others to trust and reciprocate less in the group-representative condition compared to the individual condition.

Insert Table 1 and Figure 1 about here

4.2 Hypothesis Testing

Cognitive Biases Hypotheses. I tested the "Better-than-average Bias" Hypothesis (H1) by examining the difference between one's self-forecast for trust/reciprocity and the same person's other-forecast. The results revealed that trustees, who gave trust forecast, exhibited the bias both as individuals ($\text{Mean}_{\text{self-forecast}} = 3.07, \text{Mean}_{\text{other-forecast}} = 2.47, t(53) = 2.44, p < .01$) and as group representatives ($\text{Mean}_{\text{self-forecast}} = 3.27, \text{Mean}_{\text{other-forecast}} = 2.66, t(53) = 3.49, p < .001$), corroborating H1. Trustors, in contrast, did not show such an egocentric bias on reciprocity ($\text{Mean}_{\text{self-forecast}} = 1.54, \text{Mean}_{\text{other-forecast}} = 1.34, t(53) = 1.644, p = .10$; and $\text{Mean}_{\text{self-forecast}} = 1.57, \text{Mean}_{\text{other-forecast}} = 1.96, t(53) = -.569, p = .573$ for individual and group representative condition respectively). Thus, H1 was not supported by the reciprocity behavioral forecasts data. This result is possibly due the fact that the trust strategy chosen by the trustor may affect reciprocity and reciprocity in turn has a direct impact on the trustor's payoff. Research on cognitive biases has suggested that people often overestimate the quality of their strategies and the likely outcomes

of the strategic interaction for themselves (e.g., Bazerman, 1994). Such a cognitive bias is noteworthy here. When asked to predict how much their counterparts would send back, rather than focusing solely on the trustworthiness of the other party, trustors may have also focused on their own "better-than-average" strategies. Trustors' optimism about the effectiveness of their own strategies and pessimism about the trustworthiness of their counterparts seem to have offset each other, leading to the no significant difference between the predictions of trustee's reciprocity and the actual behavior exhibited by the trustee.

To test the other-underestimation bias hypothesis, an ordinary-least-squares regression with a dummy variable for roles, which is equal to zero for trustors (trust behavior/reciprocity other-forecast) and one for trustees (trust other-forecast/reciprocity behavior), was run to test the hypothesis concerning the underestimation of others' trust. These regression analyses yielded the following results. First, in terms of trust other-underestimation, trustees underestimated the trust of others as individual agents ($\text{Mean}_{\text{behavior}} = 3.74, \text{Mean}_{\text{other-forecast}} = 2.47$, $F(1, 107) = 18.64$, $p < .001$), lending support to H2. Surprisingly, they also underestimated their own level of trust as individual agents ($\text{Mean}_{\text{behavior}} = 3.74, \text{Mean}_{\text{self-forecast}} = 3.07$, $F(1, 107) = 5.23$, $p = .024$). However, in the group representative condition, there was no significant other-underestimation on trust and thus failing to support H2 ($\text{Mean}_{\text{behavior}} = 3.06, \text{Mean}_{\text{other-forecast}} = 2.66$, $F(1, 107) = 1.781$, $p = .185$). In fact, trustees neither significantly over-estimated their own level of trust ($\text{Mean}_{\text{behavior}} = 3.06, \text{Mean}_{\text{self-forecast}} = 3.27$, $F(1, 107) = .422$ $p = .517$), nor underestimated the level of trust of their counterparts. Nevertheless, the discrepancy between self- and other-forecast was significant, resulting in the "more-trusting-than-thou" perceptual bias in the group representative condition.

Second, in regard to reciprocity other-underestimation, trustors in the individual condition underestimated the reciprocity of others only marginally ($\text{Mean}_{\text{behavior}} = 1.40, \text{Mean}_{\text{other-forecast}} = 1.12$, $F(1, 107) = 3.924$, $p = .10$) and they did not exhibit the other-underestimation bias as group representatives ($\text{Mean}_{\text{behavior}} = 1.00, \text{Mean}_{\text{other-forecast}} = .97$, $F(1, 107) = .720$, $p = .887$). Therefore, the other-underestimation bias hypothesis was not supported by the reciprocity data in this study.

Hypothesis 3 predicted that the level of trust/reciprocity exhibited by group representatives would be positively correlated with their expectation about his/her group members' behavior in the same situation.

The data showed that, for both trust and reciprocity, the correlations between expectation about members' behavior and one's own actual behavior were indeed positive and significant ($r = .53$, $p < .001$ for trust, and $r = .55$, $p < .001$ for reciprocity), thus lending strong support to Hypotheses 3.

Behavioral Discontinuity Hypotheses. H4 and H5, the behavioral discontinuity hypotheses, were tested using a repeated-measures analysis of variance (ANOVA), with the decision made in the individual condition as the first level, and the decision made in the group representative condition as the second level of the repeated measures factor. The mean level of trust of the individual was 3.74 (S.D. = 1.27) and the mean of group representative was 3.05 (SD = 1.64), $F(1, 53) = 14.90$, $p < .000$. The mean level of reciprocity of the individual was 1.39 (SD = .98) and the mean of group representative was .99 (SD= 1.03). Because the reciprocity ratio may depend on the amount initially sent by the trustor, I controlled for the amount sent by the trustor (level of trust received) for this analysis ($F(1, 53) = 5.20$, $p = .027$). Thus, the behavioral discontinuity hypotheses for both trust and reciprocity (H4 and H5) were corroborated such that people behaved in a significantly less trusting and reciprocating manner when acting on behalf of their groups.

Since there is discontinuity in behavior, will people be rational and self-reflective enough to forecast such discontinuity in themselves and others as individuals versus as group representatives? Previous research has shown that decision makers in strategic interactions are insensitive about the factors that might influence their counterpart's decisions or behavior (e.g., Bazerman, 1994; Jones & Nisbett, 1972; Gilovich, Kruger, & Savitsky, 1999). Similarly, there is evidence that people pay insufficient attention to aspects of the situation that have implications for their counterparts and have difficulty in thinking accurately about the cognition and behavior of others (Messick, Moore, and Bazerman, 1997). In line with these earlier findings, the analysis showed that trust self-forecasts did not differ significantly across the two conditions ($Mean_{individual\ self\text{-}forecast} = 3.06$, $Mean_{representative\ self\text{-}forecast} = 3.26$, $F(1, 53) = 1.19$, $p = .28$); or for reciprocity self-forecasts ($Mean_{individual\ self\text{-}forecast} = 1.54$, $Mean_{representative\ self\text{-}forecast} = 1.57$, $F(1, 53) = .05$, $p = .83$). Similarly, participants didn't forecast that others would behave differently across the two experimental conditions, either (For trust, $Mean_{individual\ other\text{-}forecast} = 2.47$, $Mean_{representative\ other\text{-}forecast} = 2.66$, F

(1, 53) = .58, p =.45; and for reciprocity $Mean_{individual\ other\text{-}forecast} = 1.57$, $Mean_{representative\ other\text{-}forecast} = 1.95$, F (1, 53) = .77, p =.39).

H6 concerned how expectations and the level of trust received influence the level of reciprocity and predicted that the unexpected trust, namely higher-than-expected trust will also have an impact on reciprocity. To examine this hypothesis, I constructed a variable that is the difference between the *actual* level of trust received and the trustee's *expectation* of the level of trust of the trustor. I then ran the following regression for both the individual and group representative conditions.

$$\text{Reciprocity} = \beta_0 + \beta_1(\text{Higher-Than-Expected Trust}) + \beta_2(\text{Actual Trust}) + \eta \qquad (1)$$

where the dependent variable is the reciprocity behavior demonstrated by the trustee, "Actual Trust" is the actual level of trust received, "Higher-Than-Expected Trust" is difference between the *actual* level of trust received and the trustee's *expectation* of the level of trust of the trustor, and η is a random disturbance term. The results of the ordinary-least-square regressions, summarized in Table 2, corroborated the hypothesis as the bigger the difference between actual trust received and the prediction, the higher the reciprocity level ($p = .01$ for individual trustees and $p = .05$ for group representative trustees). In other words, the greater the extent the trustee was pleasantly surprised by the higher-than-expected trust they received, the more would he/she reciprocate.

Insert Table 2 about here

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5. Discussion

5.1 Key Findings and Theoretical Implications

This paper focused on trust and reciprocity relations and investigated norms of trust and reciprocity exhibited by individuals when responsible for a group or organizational decision. The experiment reported here was designed to examine whether people would trust /reciprocate more (or less) when they are responsible for a group decision as opposed to when they are making the analogous decision solely on their own behalf. The experiment also allowed me to examine the expectations people have about their

counterparts' behavior and their own behavior if they were in their counterparts' shoes and whether there is any disconnection between such behavioral forecasts and actual behavior.

First, the results provide little support for the game-theoretic null hypothesis and are generally consistent with past research using the trust game framework. Clearly, people do trust and reciprocate both as individual agents and group representatives in the laboratory environment. More importantly, this study suggests that, when responsible for a group decision, individuals become less trusting and reciprocating than when they are making decisions that are solely on their own behalf. This is a compelling result considering the sole basis for such a behavioral disparity is a minimal group paradigm membership. One might expect an even greater effect in the real world, where the group or organizational identity is stronger and more salient to people.

Second, the current research extends past research on individual versus group behavior in strategic interactions. Scholars have demonstrated that group behavior, operationalized by the majority vote of the group members, is significantly more competitive and less cooperative than individual behavior. This study, as the first study of its kind, shows that the discontinuity effect not only exists in group majority decision-making mechanism but group authority decision-making mechanism as well.

Third, this study extends earlier research in this area by highlighting the disconnections between behavioral forecasts and behavior. The evidence reported here is consistent with the idea that people are poor at making hypothetical predictions (e.g. Lewicki, Saunders, & Minton, 1999): 1) Participants showed a significant "better-than-average" cognitive bias as they had a significantly higher self-forecast than their other-forecast for trust; 2) in many cases, both self- and other-forecasts were significantly different from the actual behavior observed in the game; and 3) behavioral discontinuity was not reflected in behavioral forecasts as there was no discontinuity in either self- or other-forecasts across the two experimental conditions. Thus, the combination of behavioral and behavioral-forecast data reveals a discrepancy between what people hypothetically predict what they themselves or others would do and the actual behavior observed. This divergence has been documented in other literatures, e.g., affective forecasting (Gilbert, Pinel, Wilson, Blumberg, & Wheatley, 1998). These findings provide an important insight into the disconnection between perspectives about the interaction, hypothetical behavioral

intentions and the actual observed behavior. In this regard, the literature on focus-of-attention may be particularly relevant. Focus-of-attention research has documented that the information on which individuals focus can affect the mental models they create, which in turn affects their decisions (e.g., Tor & Bazerman, 2003). The current findings represent a potentially important extension of the focus-of-attention literature by demonstrating that people often focus only on their own side of the interaction and the perspective they take is often egocentrically biased.

Lastly, this paper also makes an important advance in our understanding of the norm of reciprocity. While earlier research has provided many insights into the norm of reciprocity (Cialdini, 1993; Gouldner, 1960), the question of when such norm is triggered has received little attention (Malhotra, 2004; Pillutla, et al., 2003). The result of the current research suggests that reciprocity is closely related to expectations. When the level of trust received exceeds the expectation, the motivation to reciprocate is triggered. Thus, whether people feel obligated or motivated to reciprocate may be more of a function of rewarding the higher-than-expected trust demonstrated by the other party. This is an important extension of earlier findings.

5.2 Limitations and Future Directions for Research

The fundamental purpose of conducting behavioral experiments in management research, and social sciences in general, is to develop and test theories. In other words, experimentation is more of an analytical tool than description of what will happen in real life per se. It is not the intention of experimentalists to apply the observed behaviors in the lab to the real world or generalize the findings directly to the real world. Rather, experimentalists are interested in the theories tested in the lab. In particular, laboratory experiments, with its particular strength to create conditions that are *a priori* specified in the theory, are an important compliment to survey studies and field studies. In this study, the clarity of the experimental task, the powerful and parsimonious contrast of the differing levels of trust/reciprocity from the same individual in the individual versus group representative conditions, and the availability of objective measures of trust and reciprocity judgments and behaviors promote internal validity. However, a direct interpretation and application of these results should take into account the limitations.

First, the laboratory nature of the task and the starkness of the interactions necessarily limit the generalizability of the findings to complex organizational settings. The logic of experimentation requires us to eliminate or control for all possible influences other than the factors under investigation. In contrast, outside the laboratory doors, people are influenced simultaneously by many factors. Hence, a monetary allocation to an anonymous recipient, designed as a measure of trust and reciprocity behavior in an experiment, reflects just one aspect of the multi-faceted nature of such behavior in the real world. In addition, the time lag between trust and reciprocity interaction is minimal in the lab, whereas in the natural setting such a time lag can considerably impact the dynamics of such an interaction. This may also affect behavior. Following this logic, it is essential for researchers to conduct complimentary research in the field or longitudinal studies in order to discern the descriptive and predictive utility of the theory.

Another limitation of this study is the *ad hoc* nature of the experimental groups and their relatively small group size employed in the group-level treatment. The expected sentiments and feelings towards only group members with whom one was randomly paired for a one-hour experimental game might not be salient enough for subjects drastically to change their behaviors. It would not be surprising if, with real groups or larger groups, the difference in trust and reciprocity between the group and individual conditions became even clearer and sharper. Hence, a natural extension of this research would be to use real and/or larger groups. Similarly, future research might also look into the dynamics of social interactions in which an individual trustor interacts with a trustee group, or vice versa. Such an interaction involves two parties from different levels: the individual and group level. Thus, each party may have quite different perspectives about the counterpart and the interaction, which in turn may have effects on the outcome of such interactions.

A further interesting extension of the research is in cross-national settings where cultural differences may alter the expected norms and outcomes of trust and reciprocity in inter-individual and inter-group relations. Similarly, longitudinal studies would also be a fruitful area of future research to examine how trust and reciprocity relationships evolve and develop in inter-group relations as well as what factors within and across groups may enhance or weaken inter-group trust and reciprocity.

5.3 Conclusion and Practical Implications

These limitations notwithstanding, this research contributes to our understanding of norms of trust and reciprocity in different social contexts. The examination of trust and reciprocity interactions between group representatives responds to this concern and sheds light on a new dimension that has not previously existed in this literature. In particular, by focusing on an important component, the cognition and behavior of the group representative, this research presents a new theoretical angel at the intergroup level.

In regard to its practical implications, the findings of this research are especially pertinent given the growing importance of managing complex interpersonal and intergroup ties within and between organizations and their members. The proliferation of team-based production and management as more flexible forms of organization calls for the ability to build and maintain mutually beneficial working relationships within and across organizational boundaries (Child & McGrath, 2001). Such inter-departmental and inter-firm partnerships and collaborations carry great opportunities as well as potential temptations and vulnerabilities. Cultivating and managing such relationships is essential to business as it provides a source of competitive advantage (Barney & Hansen, 1995). Therefore, the ability to develop, foster, and maintain a mutually beneficial relationship of trust and reciprocity is critical to management competence.

The second major practical implication highlights the importance to overcome the perspective-taking limitations. This study underscores the ideas that more effective managers will have greater perspective-taking abilities. As Weick (1979) urged managers to "complicate yourself", this research suggests that effective managers are those who are able to see and understand interactions and relations from not only their own perspective, but their counterpart's as well. Specific advice derived from the findings of this study include to take into account situational forces and be more attentive to the factors that are important to the other party in order to maximize both the individual and joint gain of the interaction.

In sum, integrating the trust literature and research on social dynamics and group relations, this paper argues and provides some initial evidence that it is misleading to assume that trust and reciprocity relations between those who are responsible for a group or organizational decision will be identical to that

in interpersonal relations. Indeed, the results of this study show, in a carefully controlled way, that interpersonal and intergroup trust and reciprocity are not to be treated as identical and interchangeable.

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Table 1. Data Summary: Means and Standard Deviations of the Dependent Variables in the Two Experimental Conditions

	Individual Mean (S. D.)	Group Rep. Mean (S. D.)	Experimental Main Effect F-stat. (P-value)
Trust Behavior[†]	3.74 (1.27)	3.06 (1.64)	14.895 (.000)
Reciprocity Behavior[‡]	1.40 (.98)	.99 (1.03)	6.397 (.014)
Trust Self-Forecast	3.07 (1.76)	3.27 (1.73)	1.185 (.281)
Trust Other-Forecast	2.47 (1.64)	2.66 (1.43)	.575 (.452)
Reciprocity Self-Forecast	1.54 (.90)	1.57 (1.15)	.047 (.829)
Reciprocity Other-Forecast	1.34 (.78)	1.96 (3.41)	.765 (.388)

[†] Trust was measured by the amount sent by the trustor.

[‡] Reciprocity was measured by the ratio between the amount sent by the trustor and the amount returned by the trustee.

Table 2. Regression on Reciprocity as Reward/Punishment

$$\text{Reciprocity} = \beta_0 + \beta_1 (\text{Higher-Than-Expected Trust}) + \beta_2 (\text{Actual Trust}) + \eta$$

Dependent Variable	Constant β_0 (p-value)	Higher-than-expected Trust β_0 (p-value)	Actual Trust Received β_0 (p-value)	R^2	Overall Fit F (p-value)
Individual Reciprocity	.47 (.23)	.20 (.01)	.32 (.01)	.155	7.92 (.00)
Group Rep. Reciprocity	.61 (.06)	.20 (.05)	.17 (.11)	.074	2.00 (.15)