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Personal Relations and their Effect on Behavior in an Organizational Setting: An Experimental Study

February 2009

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Abstract

We study how personal relations affect performance in organizations. In the game we use a manager has to assign different degrees of decision power to two employees, who then have to make decisions which affect the manager. Our evidence shows that managers favor employees that they personally know and that these employees favor the manager in their decisions. However, this behavior does not affect the performance of the employees that do not know the manager. These effects are independent of whether the employees that know the manager are more or less productive than those who do not know the manager.

Keywords

Family firms, favoritism, corporate governance, procedural fairness, experiments

JEL Classification Codes: C92, D23, M50

Acknowledgements

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RESPONSE TO REVIEWER 1:

We are satisfied by the fact that this reviewer finds our results convincing and interesting and also likes the experimental set-up. The reviewer has two concerns:

- *The introduction and motivation could, perhaps, deserve more structure. The authors present a long list of related literature. A more condensed presentation or, perhaps, a different order of the references might help the reader.*

We have rewritten the introduction in the following way. First of all we have shortened it from over 4 pages to less than 3 pages (based on our format). We have moved the references about previous experiments on organizational issues into the new footnote 1 and the most relevant references about social preferences into new footnote 2. We feel that it is useful for the reader to see these references, but they could also be eliminated to further streamline the paper. The structure of the introduction is now the following. In the first paragraph we present what we do in the paper. Then we briefly discuss the literature on the effects of family and personal relations in firms and organizations. We think that this material is important, since it provides the background that really motivated our work. We then introduce the notions of direct and indirect effects of favouritism. Here we have replaced - following the other referee's suggestion the term "nepotism" by "favoritism," which is bit less loaded. We now present the possible direct effects of favouritism in a more neutral way than before, not implying that these effects will be necessarily negative. The last paragraph of the introduction previews the results; this paragraph could be cut to further shorten the introduction.

- *The authors use in their motivation the terms 'meritocracy' and 'nepotism'. While nepotism might be a good choice, I am confused by the lack of actual 'merits' in this experiment. The different abilities or levels of efficiency of the trustees are randomly allocated. If a trustee has a high ability here, this is not a merit but sheer luck. Using the terms 'egalitarian' versus 'efficient' seems to me more appropriate. Of course, in a different experiment one might study the situation where participants really earn their merit --- but in the present context I find the term 'merit' confusing.*

Following the other reviewer's suggestion we have replaced the term 'nepotism' by 'favoritism'. With respect to the second point, we see that the use of the term 'meritocracy' may be confusing in our context. The term appeared twice in the earlier version of our paper, both times in our literature review; we have now replaced it by the term 'efficiency'.

RESPONSE TO REVIEWER 2:

We thank the reviewer for the overall positive evaluation we now respond to all of the reviewer's concerns:

My main concern pertains to the interpretation of the findings. I do not think that interpreting the results as evidence for nepotism is appropriate; at least if one understands nepotism in the usual - negatively connoted - sense. The reason why I think so is that repayments ratios of strangers in the receiver position are very low, both as a second trustees in the "friends" treatments and as trustees in the "stranger" treatments. Given the strong difference in reciprocity between friends and strangers, the principal's decision to trust the friend more than the stranger is perfectly rational. In my view, this has little to do with the usual notion of nepotism since the observed discrimination between friends and strangers is purely statistical. The authors themselves define the direct effects of nepotism as "bias... that may result in the choice of suboptimal managers" (p. 3). However, as indicated, trusting the friend more than the stranger is indeed optimal for the principal. I thus find it problematic to interpret the findings as evidence for nepotism.

The referee is right in that the term "nepotism" has negative connotations which are not really consistent with the behaviour we observe in our environment. We have replaced the term "nepotism" by "favouritism." We still use the term "discrimination" but make clear that it is purely statistical. We have eliminated from the introduction the reference to "suboptimal managers" cited above and rewritten the corresponding sentence in the following way: "We will refer to the bias based on family or personal relations and to the possible reactions – positive or negative - of favored individuals as the *direct effects of favoritism.*"

Instead of nepotism, we rather observe that trust and reciprocity increase when social distance between trustor and trustee decreases. While this is interesting, it has been observed previously, sometimes even under weaker social connections between trustor and trustee. The authors should acknowledge this literature more thoroughly and connect their results to it (When deriving their hypotheses (pg. 9) the authors mention the paper by Yamagishi et al. (1998) on trust in minimal-group experiments. The following papers on the relationship between social distance and reciprocity would allow deriving more clear-cut predictions on whether discrimination is taste based or statistical or, put differently, on the difference between nepotism and optimal behavior due to reduced agency costs; see below).

Examples of such ingroup-outgroup effects in trust games include

- (1) Glaeser, E., D. Laibson, J. Scheinkman and C. Soutter (2000): "Measuring Trust", QJE, 115(3), 811-846.*
- (2) Falk, A. and C. Zehnder (2006): "Discrimination and In-Group Favoritism in a Citywide Trust Experiment", IZA Discussion Paper, No. 2765.*
For an experiment where trust and reciprocity are influenced merely by framing ("partner" vs. "opponent") see also
- (3) Burnham T., K. McCabe, V. Smith (2000): "Friend-or-foe Intentionality Priming in an Extensive Form Trust Game", JEBO, 43, 57-73.*

The referee is right in pointing out that the results related to the behaviour of the friends is similar to some previous experimental results. Thanks for the additional references. We now discuss these papers just after referring to Yamagishi, and as part of the background for the formulation of our hypotheses 1 and 2.

We want to highlight at this point that our paper is not only about the implications of assigning the larger share to the friend, but also about the impact of this on the player who obtains the smaller share. The overall effect on the firm is the joint result of these two reactions and we show that the overall effect of having personal relations is positive.

My interpretation of the data would therefore read as follows: the paper provides evidence for the idea that personal relations help mitigating moral-hazard problems in environments that are characterized by contractual incompleteness. Put differently, what might look as being nepotism from an outside perspective might actually be efficiency-enhancing when contract enforcement is weak. Note that in the present setup - due to the usage of the trust game - it is not efficiency but principal's profit which increases due to personal relationships. In the treatments where the efficiency factors for friends are lower than those for strangers, trusting the friend more is (by design) even detrimental to efficiency (but still profit maximizing for the principal, cf. p. 15). However, in light of the results it seems plausible that personal relations could indeed be efficiency-enhancing in situations where agents' decisions are not purely redistributive, but also productive (see also comment on "productivities" below).

We thank the referee for this very pertinent way of characterizing our results, which we now use at the very end of the paper.

While this effect of reduced agency costs through closer social relations has been discussed informally in the literature on agency problems (Fama and Jensen 1983, Miller and Le-Breton Miller 2006), I am not aware of previous evidence for such effects. An advantage of an experimental approach to this question is that it allows measuring social preferences (i.e., reciprocity) for different types of agents (friends vs. strangers) in a controlled manner. This in turn makes it possible to compare agency costs in principal-agent relationships where the agent has weaker or stronger personal relations to the principal. In my view, this is an interesting finding and the main contribution of the paper.

In addition to being more consistent with the experimental findings, I believe that this interpretation could also help improving the readability and structure of the paper in general. A possible motivation would clearly illustrate the potential advantages and disadvantages of personal relations in the workplace (nepotism on the one hand, and improved contract enforcement on the other). Thereby, one could also connect the paper more closely to the growing literature on social preferences as contract enforcement devices (e.g., Fehr et al. 1997). In addition, it would allow embedding the paper not too narrowly into the literature on family firms, since personal relations in the working place are ubiquitous. Especially sections 1 and 5 would benefit from this. In the current version, they appear to be relatively unstructured: the research question seems not very carefully motivated, and the arguments jump back and forth between potential advantages and disadvantages for several parties (from owners, managers, different types of employees, and back).

We have rewritten sections 1, the introduction, and 5, the concluding section, taking into account the referee's suggestions above. We have shortened the introduction from over 4 pages to less than 3 pages (based on our format). The structure of the introduction is now the following. In the first paragraph we present what we do in the paper. Then we briefly discuss the literature on the effects of family and personal relations in firms and organizations. We think that this material is important, since it provides the real background for our work. We then introduce the notions of direct and indirect effects of favouritism. Here we have replaced "nepotism" by "favouritism," which is bit less loaded. We now present the possible direct effects in a more neutral way than before, not implying that these effects will be necessarily negative. The last paragraph previews the results; this paragraph could be cut to further shorten the introduction. We have incorporated a reference to Fehr et al. (1997) in the concluding section.

Experimental design:

-It would facilitate understanding of the experimental setup if the authors described the game directly as a variant of the TG. The only difference of the game at hand and the standard trust game is that in the setup used the sender has to trust fully, but can decide whom to trust more.

The reviewer is right in pointing out that referring to the trust game is clarifying. At the end of paragraph two of section 2 we have now added the sentence: "The game we use is a variant of the trust game, in which player A has to trust fully, but can decide whom to trust."

-I would also hesitate to call the multipliers in the games "productivities". The term productivity (of agents) leads one to think about some multiplier to an agent's action (like the productivity of effort in a gift-exchange game). By contrast, efficiency in the setup at hand is determined by principals' sending decision, while the agents' decision is purely redistributive and not productive. Alternatively, the authors should describe more precisely which type of organizational relationship they have in mind (the considered situation resembles more a lender-borrower relationship where project returns of borrowers are different, and the borrowers can default on their loan).

The reviewer is right in that the term productivity is typically used in terms of 'some multiplier to an agent's action' and not in the sense of effortless ability to transform an endowment. We have replaced productivity by the term 'efficiency factor' (and efficiency, where appropriate), which is the term the reviewer uses in his next comment. We only have left a reference to the fact that these factors can be interpreted as 'productivities'.

-The authors could illustrate more precisely the advantages of having different efficiency factors in the two asymmetric treatments (2.5 and 3.75 in the BLOW treatments vs. 3.5 and 2.25 in the BHIGH treatments). The more natural specification would be to symmetrically vary the efficiency factors around the baseline of 3 (e.g., always 2.5 and 3.5). It would be helpful if the authors could illustrate in the results section where exactly the restriction of "equal pie size for the case in which B obtains the larger share" (p. 6) is needed.

We recognize that our choice here is not the only possible one. In particular, the choice proposed by the referee would have been a perfectly plausible one. In text we only point out that our parameter choices have the implication of holding the total pie size equal to the one in the baseline case of equal productivities at 30 for the case in which B obtains the larger share, but don't claim that this choice has any special virtues.

Results:

*- I was not able to replicate some results in Table 3 with the raw data provided in Appendix 2:
o According to my calculations, "Ret. B HIGH" in treatment "ABLOW" is 3.33 instead of 3.409 (the respective return ratio is 0.22 instead of 0.1919).*

We thank the referee for pointing out this error. Here we had incorrectly entered the return of the player with the higher efficiency factor, regardless of whether the player had the B or the C label. We have made the correction in the table. The incorrect value of 19.19% also appeared in the text, instead of the correct value of 22%. However, the associated test-result of $p=0.0023$ was correct.

- The returns depicted for treatment "AEQP" are not, e.g., the returns of player C if he receives the lower amount (Ret. C LOW), but instead the returns by the agent who receives the lower amount in general (irrespective of being player B or C). While this is not a problem (given the symmetric efficiency factors for both trustees), the authors should indicate it accordingly.

The referee is right. For the AEPQ treatment the B/C label should in principle be inconsequential and the only relevant issue is who gets the larger share of the pie. We have added a note to the table in which this is clarified.

- I am not sure whether the interpretation of the fact that B players are also (slightly) favored in the stranger treatments could be explained by the alphabetical order of player names. It seems more likely that this bias towards B is due to the fact that A and B players were in same room prior to the experiment (cf. p. 11). The authors should at least mention this as a possible alternative explanation.

We have altered the relevant part of the sentence at the beginning of section 4, which now says: "...perhaps caused by the fact that As and Bs were initially together in the A room or by the fact that B precedes C in the alphabet."

Minor points:

- When mentioning theoretical models of social preferences in the introduction, the authors should – at least briefly – illustrate how personal relations could, in principle, be modelled in the framework of these theories (e.g. by appropriately modelling reference groups or attaching different weights to the payoffs of friends and strangers).*

We have eliminated the references to the now well-known theoretical models of social preferences from the introduction (and from the paper) in an effort to shorten the paper.

- *In the experimental procedures, the total number of participants should be mentioned. In addition, the authors should shortly comment in why the number of participants differs across treatments (Table 2).*

The total number of participants, 429, is now mentioned at the beginning of section 3 and new footnote 9 now explains that the variation in the number of participants across treatments was due to different show-up rates.

- *The style of citations in the text should be unified: For instance, on p. 1...I would recommend citing all papers with at least 1 author consistently as “Firstauthorname et al.”*

Done.

- *Similarly, papers with coauthors are sometimes cited as “Demsetz and Villalonga 2001” and sometimes as “Jensen & Meckling 1976”...*

We now consistently use “and.”

- *The list of references should be formatted in accordance with JEBO’s guidelines for authors.*

Done.

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Abstract

We study how personal relations affect performance in organizations. In the game we use a manager has to assign different degrees of decision power to two employees, who then have to make decisions which affect the manager. Our evidence shows that managers favor employees that they personally know and that these employees favor the manager in their decisions. However, this behavior does not affect the performance of the employees that do not know the manager. These effects are independent of whether the employees that know the manager are more or less productive than those who do not know the manager.

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1. Introduction

We present data from experiments in which we study whether people favor their friends in a stylized organizational setting and whether this has any effect on the behavior of other people involved in the situation. Personal relations are present in most organizations and are naturally prominent in family firms which recently have received much attention by economists. (see La Porta, et al., 1999; Demsetz and Villalonga, 2001 and Villalonga and Amit, 2006).

The issue of how the agency problem is modified in family firms is studied in Schulze et al. (2001), Burkart et al. (2003) and Mork et al. (2004). A common theme of these studies is the owner's altruism towards the heir and the possible effects that this attitude may have in alleviating or worsening the agency problems. This has been analyzed theoretically by Chami (2001) and Burkart et al. (2003). Favoritism towards relatives is one possible consequence of such altruism.

Similar problems of favoritism may arise in relation to personal friends in other kinds of organizations. Westphal and Stern (2006) show that personal relations play an important role for managers in order to get better positions at their firms, substituting credentials. In a study on firms listed on Forbes 500, they show that ingratulatory behavior directed at the CEO pays off, increasing the likelihood to receive better appointments. Kristof-Brown (2000) reports that social relations appear as the primary force driving appointments into management positions. Hence, discriminatory practices based on personal relations may go beyond family firms and reach other organizations as well.

The consequences of such favoritism are somewhat controversial. Fama and Jensen (1983) consider that family relationships between owners and managers reduce the agency problem. Miller and Le Breton-Miller (2006) discuss the possible positive effects of choosing a family member as a top executive due to higher motivation – in the line of stewardship theory.

Other analysts provide arguments and evidence in favor of the effects of favoritism being negative. Pérez-González (2006) analyzes CEO successions in family firms using data from U.S.

corporations. He finds that promotion of CEOs with family ties is indeed frequent. Family CEOs attain this position earlier than non family CEOs – on average eight years earlier. This kind of pro-family bias leads to considerable declines in performance, as measured by returns on assets and market-to-book ratios. Kets de Vries (1993) and Schulze et al. (2001) indicate that favoritism may also affect other decisions besides CEO succession: promotion to selected places in the organization, better remunerations or more training. Kole (1997) and Bates et al. (1998) find evidence of these practices. We will refer to the bias based on family or personal relations and to the possible reactions – positive or negative - of favored individuals as the *direct effects of favoritism*.

However, this may not be all that needs to be considered. Favoritism may also have an indirect effect. If a decision based on family relations or friendship violates economic or fairness principles, other agents in the organization may feel discriminated since they do not benefit from the decision only because they do not belong to the insider group. Hence, they may perceive that their earnings, positions, status or job security levels are below what they deserve in comparison to the insiders. If this perception arises, negative reactions from these agents may result, as Gomez-Mejia et al. (2001) and Miller and Le Breton-Miller (2006) point out.

In this paper we use a simple experimental design – based on the well-known trust game - to study if, in the presence of personal relations between agents, favoritism occurs and whether it leads to poor results¹. The essence of what goes on in the organizational settings we are interested in can be captured in a situation in which a decision-maker or manager has to assign certain unequal degrees of responsibility or decision power to two different subordinates or employees; one of the

¹ Our research is also related to the literature on social preferences. Most experiments on these issues do not take into account the fact that many interactions take place between people that know each other personally. However, there are some exceptions. An important general notion in this context is ‘social distance’ as discussed in Akerlof (1997) and Hoffman et al. (1996). Bohnet and Frey (1999) show that dictator game giving is affected by whether the dictator can simply visually identify the recipient and by whether the recipient can identify the dictator. This is consistent with the notion that letting subjects see each other, identify each other by names, etc. reduces social distance. For our purposes we needed preexistent social relations, a situation with even less social distance, as in Peters et al. (2004) where different family members play together in a public goods game.

employees will obtain discretionary power over a larger part of a pie than the other. These two employees then have to make distributive decisions which affect themselves and the manager.

We study the impact of two treatment variables. The first is the existence of a personal connection between the manager and one of the employees; we compare the cases where this connection exists and where it does not exist. The other treatment variable is the ratio of efficiency factors of the two employees. In the base case the two employees have the same efficiency factors, whereas in the two other cases we look at the efficiency factors are different. The resulting design with six treatments makes it possible to study the effect of a personal relation between the manager and one of the employees for the cases where the employee in question is equally, more or less productive than the other employee.²

Our treatment configuration makes it possible to study both the direct and indirect effects of favoritism. In designing the experiment we have aimed at finding an unbiased environment, which a priori does not seem to be especially favorable, neither to the existence nor the absence of the two effects of favoritism. Our objective was to let the data speak for themselves.

We find evidence for the direct favoritism effect in that managers tend to favor employees that they personally know and that these employees tend, more than other employees, to favor the manager in their distributive decisions. However, favoritism does not affect the performance of the employees that do not know the manager. All these effects are independent of whether the employees that know the manager are more or less productive than the employees who do not know the manager. We also find that the joint performance of employees is significantly higher in the presence of personal relations, regardless of efficiency differences.

² For some other recent studies on organizational issues see Weber et al. (2001), Malhotra and Murnighan (2002) and Malhotra (2004).

2. Design and Hypotheses

In our game Player A is given a fixed amount of 10€ that has to be passed on to Player B and Player C in fixed proportions. The choice that A has is to give 6€ to B and 4€ to C or vice versa.³

Player A can be seen as representing the manager of a firm or organization who has to assign different levels of responsibility or decision power – represented by the different shares of the initial pie - to two of her employees, B and C.

Once Player A has decided how to assign the two shares, the amount sent to player B is multiplied by a factor M_B and the amount received by player C is multiplied by M_C . These factors represent the efficiency levels of the two agents or employees. The introduction of these factors allows us to distinguish between responsibility and efficiency levels. While the shares the employees are assigned by the manager can be seen as the responsibility levels, the multiplicative factors can be naturally interpreted as the productivities of the two employees. This distinction is important for our analysis below. The game we use is a variant of the trust game, in which player A has to trust fully, but can decide whom to trust.

Our design incorporates two treatment variables. The first of them pertains to whether the principal personally knows one of the agents or not. In our *anonymous* treatments the game was played in the standard fashion: subjects did not know who the others in the trio were. In our *friends* treatments Player A and Player B knew each other personally, but both did not know Player C personally. In turn, Player C did not know either Player A or Player B, but did know that Players A and B knew each other personally.⁴

Apart from varying whether A and B know each other or not, we also vary the factors M_B and M_C . We study 3 different pairs of efficiency factors. The first is the case of equal efficiency

³ The game we use is similar to the game of Brandts et al. (2006) and is also related to the well-known trust game (Berg et al., 1995). This kind of games has been used to represent organizational environments like the one we study here.

⁴ We did not try to control for the degree of personal relation or friendship. Our interest is in favoritism in the wider sense.

factors, $M_B=M_C=3$. The pies that – after the multiplication - the two employees have to distribute will be of sizes 18€ and 12€. In the second configuration of efficiency factors, player B is a low efficiency employee (hereafter we will refer to this case as *B Low*) and the two efficiencies are $M_B=2.5$ and $M_C=3.75$. In the third case B is a high efficiency agent (hereafter, *B High*): $M_B=3.5$ and $M_C=2.25$.⁵

The numbers for the B Low and B High cases were selected in a way that keeps the total pie size equal to the one in the baseline case of equal efficiency factors at 30€ for the case in which B obtains the larger share.⁶ Given this restriction B and C players can not simply exchange the efficiency factors between the two unequal efficiency treatments. The chosen efficiency factors satisfy the restriction given by the baseline; in addition we tried to keep the ratio of the efficiency factors as close as possible to the ratio of shares. The ration of shares is 1.5, since (High Share)/(Low share)=6/4, while the ratio of efficiency factors is $M_B/M_C=3.5/2.25=1.55$ for the B High case, and $M_C/M_B=3.75/2.25=1.5$ for the B Low case. However, remember that the comparisons that we are mainly interested in are the ones corresponding to the friends vs. anonymous distinction, so that the above choice of parameters is not crucial.

Once players B and C have been informed about the amount received they have to decide simultaneously and without any communication how much of the pie they control they want to give (back) to Player A; we call these amounts x_B and x_C . The payoff for player A is the sum of the amount sent by players B and C. Players B and C get, respectively, what they decide to keep for themselves. The straightforward game theoretical prediction in this game - if players' utility functions just incorporate their own payoff, the game is played only once and players do not know each other - is that both Player B and Player C will give nothing to Player A. Player A is, hence, indifferent with respect to how to distribute the initial pie between Player B and Player C.

⁵ The appendix contains the instructions for the case where player B has the low efficiency level, i.e. $M_B=2.5$ and $M_C=3.75$.

⁶ $2.5*6+3.75*4=30$ and $3.5*6+2.25*4=30$.

Table 1 presents a summary of our treatments. In total we have six different cases which arise from the three different efficiency configurations of Player B and C and the existence or absence of personal relations between player A and Player B. Table 1 also introduces the acronyms for the different treatments which we will use below.

-----TABLE 1 ABOUT HERE-----

Our simple set-up makes it easy to focus on the precise issues that we want to study. We can separately analyze the behavior of players A, B and C and we can study the impact of efficiency factors on behavior. First, we are able to study how player A's assignment decision is influenced by whether she personally knows player B.

Second, we can study how player B's decision is influenced by whether he has been chosen by an A that knows him. In studying players A and B in the *friends* treatment one has to take into account precisely that they know each other, so that, one could say, that the experimental interaction will continue after the experiment itself. In particular, the two friends may be able to share payoffs once the experiment is over. We will get back to this when discussing the results.

Third, we can study the reaction of the C player to the existence of a personal connection between A and B. For all three cases we will be able to see how the influence of personal relations is affected by the efficiency differences between B and C. Note that the behavior of players A and B pertain to the direct effects of favoritism, whereas it is in C's behavior where we may find indirect effects of favoritism.

2. 1 The Direct Effects of Favoritism

The first issue is whether A players will tend to give the larger share of the pie to Bs that are friends. This tendency is what we refer to as favoritism. Altruism has been argued to be one of the main motives behind the direct effect of favoritism. Most people care more about family members or friends than for others and try to help them in the organization. Of course, favoritism may also be

influenced by the strategic element of expecting to get more back from a friend than from a stranger. Both forces can go together since it is possible that the altruism is mutual.

Note, however, that it is not obvious what to expect. A could suspect that a C who is favored vis-à-vis a B friend could be especially generous. In addition, the decision could be affected by the difference in efficiency factors. When the friend is the more productive of the two employees simple favoritism should bias the A player even more towards giving the larger share to B. Of course, it is also conceivable that more general fairness motivations may guide A's behavior in the opposite direction to compensate the C player for his low efficiency factor.

It is not easily foreseeable how these factors will interact. However, minimal groups' experiments (see Yamagishi et al. 1998 for a survey) show that agents send more money to in-group partners because they expect more reciprocity from the group members. Several papers study ingroup outgroup effects in the context of trust games. Glaeser et al. (2000) find that social connectedness – as captured by the number of common friends and the duration of the acquaintanceship – generally predicts the levels of trust and trustworthiness in the game. Falk and Zehnder (2006) report evidence from a cross-city-district field experiment in Zurich which shows that people trust strangers from their own district significantly more than strangers from other districts. Burnham et al. (2000) report that trust and trustworthiness is affected by whether the person that an individual is matched with is labeled as “partner” or as “opponent.” Hence, this literature suggests that discrimination arises as a consequence of expected reciprocity. At this point we posit what we call the favoritism-discrimination hypothesis.

Hypothesis 1: (Favoritism-Discrimination). Principals in the friends' treatment will give the higher share to their friend, independently of efficiency factors.

The second part of the direct effect of favoritism has to do with whether B will react to being favored in a way that is favorable to A. In the experimental literature in economics there is considerable evidence of reciprocal behavior in situations like the one we study (e. g. Berg et al.,

1995, etc), but not on whether this is affected by the existence of personal relations. We propose that social distance will affect reciprocal behavior.

Hypothesis 2: (Social distance decreases reciprocal behavior). Friends that obtain the higher share will give back more (in percentage) than anonymous players.

Note that the data could be consistent with only one of the hypotheses. If hypothesis 1 were upheld by the data, but hypothesis 2 not, this could be described as “thankless friends” not reciprocating the good treatment they receive. If hypothesis 2 were consistent with the data, but not hypothesis 1, then managers would be getting something for nothing from their friends. Both these possibilities did not appear very likely a priori, given the ample evidence for reciprocal giving in games like the one we study here.

2.2. The Indirect Effect of Favoritism

The idea of workers reacting negatively to favoritism, suggested by Schultz et al. (2001) and Gomez-Mejia et al. (2001) can be supported by several theories. Intentionality arguments suggest that if an agent perceives that he is being treated unfairly, this may prompt negative reactions (Rabin, 1993).⁷ The perception of unfair treatment can have several origins. Equity theory (Adams, 1965), for example, claims that agents value what they obtain with respect to what they contribute. This means that agents that perceive that they deserve more than they obtain will become *angry*.

Social identification can also provide a basis for this negative reaction to discrimination based on the membership to social groups. When identification is not possible because one person is in a disadvantageous social position, resentment may emerge and cooperation will suffer (Tajfel and Turner, 1986). Milton and Westphal (2005) find evidence of this behavior in work groups. All these ideas led us to expect a negative reaction to discrimination, as captured in hypothesis 3.

Hypothesis 3: (Discrimination leads to negative reactions). Anonymous agents, when they are less favored in the friends' treatment will give back less than in the anonymous treatment when they are less favored.

⁷ Brandts and Solà (2001) study negative effects to unfair treatment.

It is not self-evident how the differences in efficiency factors will impact on behavior. However, the discussions in Gomez-Mejia et al. (2001) and Miller and LeBreton-Miller (2006) suggest that the reaction of the anonymous player will be more negative when the manager's friend is less able than the other employee.

3. Experimental Procedures

Our experimental sessions took place at the Universitat Autònoma de Barcelona between April and October 2005. The total number of participants was 429. The sessions were hand-run and involved two large class-rooms, which we will refer to as the A and the B/C room. To recruit participants we posted announcements at different locations on campus, in which we asked interested subjects to sign up in a particular office. We posted separate announcements to recruit subjects for the two rooms. The announcements corresponding to the two different rooms were posted in different buildings of the university in an attempt to minimize prior contact between subjects in the two rooms. At the moment of signing up participants were told in which room to gather for the experiment.

There were small but important differences between the anonymous vs. friends sessions, both with respect to what the announcements said and to how the sign-up process was conducted. For the *anonymous* treatments the announcements for the two rooms were identical. For the *friends* treatments the announcements for the A room asked for participants that wanted to take part in the experiment in pairs, while the announcements for the B/C room were just like those for the anonymous treatments and did not make any reference to pairs. Pairs that participated in the experiment had to sign up together at a office on campus.

When signing-up in the office for the anonymous treatment participants simply wrote their name on a sheet either for the A room or for the B/C room. We asked a certain number of subjects to gather in the B/C room and asked double that number of subjects to gather in another classroom, the A room.

In the friends treatments there was a difference between signing up for the A or the B/C room. Signing-up for the B/C room took place in exactly the same way as for the anonymous treatments. In contrast when signing-up for the A room subjects had to do it in *pairs* of people who personally knew each other. More specifically, pairs had to write their names at the same time on the inscription sheet for the A room.

For both treatments, the subjects who gathered in the B/C classroom were automatically assigned the role of C. For the subjects that initially gathered in the A classroom we used a random procedure to determine who would have the A and who the B role. For the anonymous treatment subjects simply drew lottery ticket which assigned half of them to the A role and the other half to the B role. For the friends' treatment the assignment of the A and B roles took place as follows. For each pair of subjects that had signed up together for the session we separately determined randomly who would be A and who would be B.

Subjects that had been assigned the Player A role stayed in the A room, whereas the B players were guided to the B/C classroom. While in the A room the A and B roles were being assigned, in the B/C classroom subjects with the role of player C had been randomly seated in order on the right side of the room. Once the B players arrived there they were seated on the left side of the classroom. In the anonymous treatment they were randomly assigned to seats. In the friends treatment the B players were seated in an order that facilitated keeping track of the pairings with the A players.

Then instructions were read aloud, simultaneously in both rooms. After we had finished reading the instructions and answered questions, we distributed decision sheets to subjects.⁸ Again, the *friends* treatments involved a particular feature: the decision sheet of each A (B) player showed the name of the B (A) player they were paired with. In the anonymous treatments the decision

⁸ The appendix contains a sample copy of the decision sheets.

sheets simply showed the identification number of the other two people in the trio. This identification numbers could not be tracked by participants to any other individual in the session.

The A players moved first; they marked their decision – whether to give 6€ to B and 4€ to C or vice versa – on their decision sheet. We then marked the decision on the corresponding decision sheets of the B and C players in the B/C room. Then the B and C players made their decisions and these were communicated to the corresponding A players. That was the end of the experimental session; the decisions were one-shot in character.

4. Results

Table 2 presents the proportions in which players B in our experiment obtain the higher share in the different treatments.⁹ The pattern is remarkably simple: for all three anonymity cells there is a small bias towards B, perhaps caused by the fact that A and B were initially together in the A room or by the fact that B precedes C in the alphabet. In contrast, in all three friends cells there is a similar large bias towards B.

-----TABLE 2 ABOUT HERE-----

This impression is confirmed by a Chi-square test which compares the differences in proportions between the three cases involving friends and the three involving anonymous B players; the p-values for the three pair-wise Fischer exact tests are .038, .004 and .003. In short, with respect to hypothesis 1 we find that favoritism exists on the side of player A and is the same irrespective of the efficiency factor of the friend.¹⁰

Tables 3 presents the mean returns that player A obtains from player C and Player B in those cases in which Player C (who in the treatments with friends is the anonymous player) gets the low share and Player B gets the high share. With this data we can discuss hypothesis 2 (*Social distance decreases reciprocal behavior*) and hypothesis 3 (*Discrimination leads to negative reactions*).

⁹ The number of participants varies across sessions, due to different show-up rates.

¹⁰ Observe that for the Blow case A's behavior leads to what can be called an inefficient assignment of responsibilities.

Hypothesis 2 states that friends will give back more (in percentage) than anonymous players. We observe that the returns from player B are systematically higher in the friends' treatments than in the anonymous treatments. Like the behavior of the A players, the pattern is quite independent of efficiency differences. In treatment FEQP this average return is 43%, whereas in AEQP it is 23.8%. Using the Wilcoxon rank-sum test, this difference is strongly significant ($p=0.0002$). This result appears also in treatments FBLOW and ABLOW. In FBLOW the average return is 41.01% and in ABLOW the return from player B is 22.22%, an again strongly significant difference ($p=0.0023$). Finally, in FBHIGH the return from player B is 36.72%, while in ABHIGH is 19.19% a significant different at $p=0.024$. Hence, we conclude that hypothesis 2 is confirmed.

Players A and B that knew each other could conceivably share their money payoffs after the experiment; in a way this just reflects how things are in the situations that we are trying to represent. However, we think that payoff-sharing can not explain away the fact that B players that are friends give back more than strangers. In other words we don't believe that after the experiment the B players in the friends treatments asked the corresponding A players to pay them back what these As had obtained during the experiment in excess of what the As in the anonymous treatments had obtained. Perhaps the B players were asked by their A friends to pay them the rest up to the 50% sharing, but our impression is that this did not happen. The B players got away with keeping around 60% of the amount to be shared. In general, subjects accepted the framing of the situation into which we had put them.

-----TABLE 3 ABOUT HERE-----

We now turn to the returns from players of type C when they get the low share. Hypothesis 3 stated that players of type C would return a lower amount in those treatments where she obtains the low share in a group of friends than in the anonymous treatment. Our results show that this is not so and, again, this fact is not affected by efficiency differences. In FEQP the return is 13%, whereas in AEQP it is 15.87%, consistently with this idea, but this difference is not significant at any conventional significance level. In treatment FBLOW the mean return from player C is 16.37%,

while in ABLOW is 11.11%; the difference is not significantly different. Finally, in FBHIGH the mean return from player C is 8.76% and 5.24% in ABHIGH. Once more, this difference is not significant. Hence hypothesis 3 is clearly rejected in our design. Surprisingly, players of type C do not appear to be bothered by the fact that the other player, a friend of player A, gets the high share, even in situations where the friend is a low efficiency agent.¹¹

We can now make some additional remarks about the results. Notice first that, as an implication of the above results, the total return – shown in the last column of table 3 - is significantly higher for treatments where friends play, and that this occurs regardless of the efficiency factors. In FEQP the total return to player A is 30% versus 20.63% in treatment AEQP (Wilcoxon rank-sum, $p=0.011$). In treatment FBLOW the total return amounts to 28.01% of the resources, almost twice as in ABLOW, 14.58% (Wilcoxon rank-sum, $p=0.0007$). Finally, total return in treatment FBHIGH is 28.53% versus 13.13% in ABHIGH (Wilcoxon rank-sum, $p=0.0007$). We will get back to this result at the end of the next section.

5. Summary and conclusions

Our first result is that, given the opportunity to choose between a friend and an anonymous player in a trust relationship, subjects in the manager role discriminate – in a statistical sense - in favor of the friend. This discrimination occurs independently of whether the friend has a higher or lower efficiency factor than the anonymous player. Second, we find that friends return systematically more than players in parallel anonymous treatments, again with no effects due to differences in efficiency factors. These results are consistent with the view that personal relations help mitigating moral hazard problems in environments characterized by contractual incompleteness, an idea discussed informally in the literature on agency problems as in Fama and Jensen (1983) or Miller and Le-Breton Miller (2006). In a more general sense, our results are in

¹¹ Overall, we observe that getting the low share seems the most important factor affecting the level of payback by employees, whereas being in a group with two friends (that share the biggest amount) does not matter. Moreover, player C behavior does not appear to be strongly influenced by the ratio of efficiency factors.

line with the notion that social preferences act as contract enforcement devices, as in Fehr et al. (1997).

Our third result is that anonymous players that interact in a game with two friends and obtain the smaller share of the pie (and in this sense are discriminated) do not react by lowering their return to the principal with respect to analogous situations in a purely anonymous game. This is again independent of whether the friend is more or less efficient than the third player. This surprising result can be understood in terms of, what in our context, are the relevant social comparisons (see Akerlof, 1982, 1997). Tropp and Wright (1999) argue that an individual's sense of relative deprivation may depend on whether the comparison is perceived to be inter-group or intra-group, and on the level of identification of the person with respect to his own group. They find that in self-outgroup comparisons, highly identified individuals report more deprivation than individuals low in identification. In this sense, Miller (2001) points out that people believe that they deserve more respect from other individuals pertaining to the same group.

The lack of the third player's reaction to the statistical discrimination we observe can be understood in terms of a self-outgroup comparison; the third player may naturally consider himself as part of a different group than the two friends. Another relevant issue here may be legitimacy. Tyler (2006) argues that when differences between groups are legitimate, people will not perceive bad outcomes as a reflection of discrimination. On the contrary, if differences between groups are perceived as illegitimate, they may generate anger. This effect has been observed by psychologists in experimental research (Brown and Ross, 1982, among others). Applied to the case of family firms it suggests that non family members may interpret that family members have a legitimate status in the family firm and, hence, they accept discrimination.

Our fourth result brings the previous results together and can be seen as a kind of bottom line of the whole study. The manager's total earnings are higher in the case where he interacts with B being a friend than when B is an anonymous player. From the manager's point of view, it is better to be in an experimental firm with friends, and it is perfectly rational to trust the friend more than

the stranger. In addition, the earnings of the manager are very similar across the three cases with friends (FEQP, FBLOW and FBHIGH). To see how this comes about just compare behavior between FBLOW and FBHIGH in table 3. The discriminated C player in FBHIGH gives back less in absolute terms and in proportions than in FBLOW. At the same time the friend makes a somewhat larger transfer when he is less efficient – in FBLOW – than in the other case, leading to the overall result. This result suggests that personal relations could indeed be efficiency-enhancing in situations where agents' decisions are not purely distributive, but also productive.

APPENDIX 1: THE INSTRUCTIONS

Note to readers: This instructions and decisions sheets refer to the treatment FBLOW, that is, the treatment where A and B know each other personally and player B has a low productivity factor in comparison to C. We write in italics the appropriate changes for the case of the ABLOW treatment, that is, the treatment where all players are anonymous.

Welcome and thank you for coming today. From now on, we ask you to remain silent. If you have any question, raise your hand and an assistant will come to you.

This session consists of you making decisions that will affect both you and other people participating in this session.

Participation:

In order to enroll people in this session, we have followed two procedures. In one case we have placed announcements in several buildings of this university asking for voluntary participation in a research project involving decision making. In the other case we placed announcements asking for voluntary participation in a research project involving decision making of two-person groups. (*This section is missing in the treatment ABLOW*).

Development of the session:

We have constituted groups of three people (*in treatment ABLOW we include: randomly*). In each group, two people enrolled together for this session as explained above. Hence, two of the three persons in a group know each other and the other has been selected randomly among the participants enrolled individually. (*In treatment ABLOW, instead of last sentence read: Nobody will know the identity of the people in her group.*)

In each group of three people we have three types of participant. A participant of type A, a participant of type B, and a participant of type C. Participants of type A are in one classroom and

participants of type B and C are in another classroom. The participant of type A knows personally one of the other members in her group and she will be able to identify her (she knows whether the other is of type B or type C), in the same way that this person will be able to identify participant A. *(In treatment ABLOW we substitute the last sentence by: Assignment of types to participants is random)*

Participant of type A:

Participant type A will make only one decision. This participant receives a quantity of 10€ and she must decide to whom she wants to assign 4€ in the group and to whom she wants to assign 6€. Once she has made this decision, the amount of money that she decided to allocate is multiplied. The amount received by participant of type B in her group is multiplied by 2.5 and the amount allocated to participant of type C is multiplied by 3.75. Therefore, the amounts that participants of type B and C may receive are:

		B receives	C receives
A sends	4€ to B and 6€ to C	10€ (10€=4€*2.5)	22,5€ (22,5€=6€*3.75)
A sends	6€ to B and 4€ to C	15€ (15€=6€*2.5)	15€ (15€=4€*3.75)

Once the participant of type A will have made her decision, this decision will be communicated individually to the members of her group.

Participants of type B and C:

Participants of type B and C, once the participant of type A in their group has made her own decision, also have to make decisions. The participant of type B will receive either 10€ (4 € assigned by A that are multiplied by 2.5) or 15€ (6 € assigned by A that are multiplied by 2.5).

Whatever the amount received, her decision consists in deciding how much of the amount she keeps

for herself and how much she decides to give to player A. For the participant of type C the decision is identical. She will receive either 15€ (4€ transferred by A which are multiplied by 3.75), or 22.5€ (6€ transferred by A multiplied by 3.75). Once the amount received is known, she must decide how much of the amount she keeps for herself and how much she decides to give to player A.

Participants of type B and C make decisions individually.

Payments:

When participants of type B and C will have made their decisions, these decisions will be communicated to player A and the session will end. The payments that each of them will receive are the following: A will receive the amount that player B will have decided to give her plus the amount that player C will have decided to give her. B and C will receive the amounts that they have decided to keep for themselves.

End of the session:

Once all the decisions will have taken place, you will know the amount that you will receive for your participation in the session. You will fill out the receipt you found in your folder and we will pay each of you according to the decisions made.

Once we have paid you, leave the room silently. Thanks for you cooperation.

On the next page you will find a summary of the decisions for each type of participant in each group. Now we will hand out the decision pages on which you will register your decisions.

SUMMARY OF DECISIONS

Decision by A:

Option 1	4€ to B and 6€ to C
Option 2:	6€ to B and 4€ to C

Decision by B:

If 15€ (=6€*2,5)	Amount she sends to A (she keeps the difference)
If 10€ (=4€*2,5)	Amount she sends to A (she keeps the difference)

Amount received

Decision by C:

If 15€ (=4€*3,75)	Amount she sends to A (she keeps the difference)
If 22,5€ (=6€*3,75)	Amount she sends to A (she keeps the difference)

Payments

Type of participant	Amount in Euros
A	Amount that B sends her + Amounts that C sends her
B	If she receives 15: 15 – amount she sends to A
	If she receives 10: 10 - amount she sends to A
C	If she receives 15: 15 - amount she sends to A
	If she receives 22,5: 22,5 - amount she sends to A

DECISION SHEET

TYPE OF PARTICIPANT: **A**

The participant of Type B in your group is: [The name of the person she has signed up with appears here]

(In the anonymous treatments the previous sentence is missing)

Your decision consists of selecting one the options below. Please, mark clearly your option.

Decision by A:

Option 1:	4€ to B and 6€ to C
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Option 2:	6€ to B and 4€ to C
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In the table below we will write down the decisions made by participants of type B and C in your group.

Decisions from B and C	
Amount sent by B:	
Amount sent by C:	
Total amount:	

DECISION SHEETTYPE OF PARTICIPANT: **B**

The participant of Type A in your group is: [The name of the person she has signed up with appears here]

(In the anonymous treatments a participant number appears above)

We will mark the amount sent to you by A. Once you know the amount sent to you by A, and knowing that in your case this amount is multiplied by 2.5, your decision is how much you want to send to A and how much you want to keep for yourself. Below you can write the amount sent to A.

Decision by B:

A SENT YOU 4€		
	Amount to send to A	Amount to keep for yourself
You have 10€ (4€*2,5)		

A SENT YOU 6€		
	Amount to send to A	Amount to keep for yourself
You have 15€ (6€*2,5)		

DECISION SHEETTYPE OF PARTICIPANT: **C**

Participants of type A and B in your group know each other personally.

(In the anonymous treatments a participant number appears above)

We will mark the amount sent to you by A. Once you know the amount sent to you by A, and knowing that in your case this amount is multiplied by 3.75, your decision is how much you want to send to A and how much you want to keep for yourself. Below you can write the amount sent to A.

Decision by C:

A SENT YOU 4€		
	Amount to send to A	Amount to keep for yourself
You have 15€ (4€*3,75)		

A SENT YOU 6€		
	Amount to send to A	Amount to keep for yourself
You have 22,5€ (6€*3,75)		

APPENDIX 2: THE RAW DATA

Treatment FEQ					Treatment AEQ				
B	C	Ret. B	Ret. C	Higher	B	C	Ret. B	Ret. C	Higher
12	18	2	3	C	18	12	0	2	B
18	12	8	6	B	18	12	3	2	B
18	12	7	0	B	18	12	5	2	B
18	12	6	4	B	12	18	1	3	C
18	12	8	0	B	18	12	0	0	B
18	12	6	1	B	12	18	4	3	C
18	12	6	2	B	18	12	6	0	B
18	12	6	2	B	18	12	2	6	B
18	12	8	0	B	12	18	0	8	C
18	12	9	1	B	12	18	0	6	C
12	18	4	2	C	12	18	8	3	C
18	12	9	0	B	18	12	1	1	B
18	12	9	2	B	18	12	2	0	B
18	12	9	2	B	12	18	3	6	C
18	12	8	2	B	12	18	1	8	C
18	12	9	1	B	18	12	4	2	B
18	12	9	2	B	12	18	2	8	C
					18	12	8	2	B
					12	18	4	6	C
					18	12	0	0	B
					18	12	8	0	B

Treatment FBLOW					Treatment ABLOW				
B	C	Ret. B	Ret. C	Higher	B	C	Ret. B	Ret. C	Higher
15	15	5	0	B	15	15	5	0	B
15	15	6	7	B	10	22.5	0.5	2.5	C
15	15	7.5	1	B	15	15	2	0	B
15	15	7	5	B	10	22.5	0	0	C
15	15	7.5	5	B	10	22.5	0	3.5	C
15	15	7.5	2	B	15	15	1	2	B
15	15	7	0	B	15	15	6	5	B
15	15	7.5	3	B	15	15	4	0	B
15	15	7.5	0	B	15	15	0	0	B
15	15	7.5	0	B	10	22.5	0	4	C
10	22.5	5	1.5	C	15	15	5	0	B
15	15	5	0	B	10	22.5	0	0	C
15	15	8	10	B	15	15	0	5	B
15	15	5	4	B	10	22.5	1.75	7.5	C
15	15	5	0	B	15	15	4	0	B
10	22.5	0.1	6.5	C	10	22.5	0	0	C
15	15	5	0.5	B	10	22.5	0	2.5	C
15	15	5	0	B	15	15	2	5	B
15	15	7.5	4	B	10	22.5	0	10	C
15	15	6	0	B	10	22.5	2	5	C
15	15	5	0	B	15	15	5	3	B
15	15	0	5	B	15	15	6	0	B
15	15	0	0	B					
15	15	15	5	B					
15	15	5	5	B					

Treatment FBHIGH					Treatment ABHIGH				
B	C	Ret. B	Ret. C	Higher	B	C	Ret. B	Ret. C	Higher
21	9	11	0	B	14	13.5	4	0	C
21	9	0	3	B	21	9	1	0	B
21	9	0	3	B	14	13.5	0	1.5	C
21	9	10.5	0	B	21	9	1	1	B
21	9	0	0.5	B	21	9	0	0	B
21	9	10.5	3	B	21	9	1	0	B
21	9	10	3	B	21	9	10	0	B
21	9	0	0	B	14	13.5	0	0	C
21	9	10	0	B	14	13.5	3	3.5	C
21	9	10.5	0	B	14	13.5	0	0	C
21	9	10	0	B	14	13.5	2	3.5	C
14	13.5	10	3.5	C	14	13.5	0	3.5	C
21	9	12	0	B	21	9	1	1	B
21	9	0	1	B	14	13.5	0	4.5	C
21	9	10.5	1	B	21	9	0	0.5	B
21	9	10.5	2	B	14	13.5	0	1.5	C
21	9	10	0	B	21	9	6	0	B
21	9	10.5	1	B	14	13.5	2	1.5	C
21	9	10.5	1	B	21	9	0	2	B
21	9	8.5	0	B	21	9	7	0	B
21	9	7	0	B	21	9	7	0	B
21	9	21	0	B	14	13.5	0.5	0.5	C
21	9	5	0	B	21	9	1	0	B
21	9	5	2	B	21	9	7	0	B
14	13.5	8	0	C	14	13.5	1	3.34	C
21	9	10.5	0	B	21	9	7	0.05	B
21	9	7	0	B	21	9	5	2	B
21	9	0	0	B	14	13.5	1	3.5	C
14	13.5	0	3.5	C	21	9	10.5	1	B

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Table 1. Summary of Treatments

		Efficiency Factors		
		<i>Equal Eff.</i> $M_B=M_C$	<i>B Low</i> $M_B<M_C$	<i>B High</i> $M_B>M_C$
PERSONAL	<i>A and B Friends</i>	<i>FEQP</i>	<i>FBLOW</i>	<i>FBHIGH</i>
RELATION	<i>Anonymous</i>	<i>AEQP</i>	<i>ABLOW</i>	<i>ABHIGH</i>

Table 2. Proportions of B getting the higher share

	FEQP	AEQP	FBLOW	ABLOW	FBHIGH	ABHIGH
B	15	12	23	12	26	16
TOTAL	17	21	25	22	29	29
PROP.	0.882	0.571	0.92	0.545	0.8965	0.5517

Table 3: Mean returns from Player C getting the low share, from Player B getting the high share, and total return.

		RET. C LOW	RET. B HIGH	TOTAL RET.
FEQP	ABS.	1.66	7.8	9
	PROP.	0.13	0.43	0.3
AEQP*	ABS.	1.9047	4.2857	6.1904
	PROP.	0.1587	0.2380	0.2063
FBLOW	ABS.	2.456	6.1521	8.444
	PROP.	0.1637	0.4101	0.2801
ABLOW	ABS.	1.666	3.3333	4.511
	PROP.	0.111	0.2222	0.1458
FBHIGH	ABS.	0.7884	7.7115	8.4827
	PROP.	0.0876	0.3672	0.2853
ABHIGH	ABS.	0.4718	4.0312	3.8755
	PROP.	0.0524	0.1919	0.1313

*For this case, RET.C LOW corresponds to the agent who receives the lower amount, irrespective of being player B or C.

Table 1. Summary of Treatments

		Efficiency Factors		
		<i>Equal Eff.</i> $M_B = M_C$	<i>B Low</i> $M_B < M_C$	<i>B High</i> $M_B > M_C$
PERSONAL	<i>A and B Friends</i>	<i>FEQP</i>	<i>FBLOW</i>	<i>FBHIGH</i>
RELATION	<i>Anonymous</i>	<i>AEQP</i>	<i>ABLOW</i>	<i>ABHIGH</i>

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