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WHEN SOCIAL ACCOUNTS WORK: EVIDENCE FROM ULTIMATUM GAMES

Andreas Hack

Technische Universität Dortmund

Frauke Lammers

WHU – Otto Beisheim School of Management

ABSTRACT

This paper examines the mitigating effect of social accounts on retaliatory behavior in a mini-ultimatum game setting. Results from games with 108 German high school students support the hypothesis that an ex ante informational and sensitive message can decrease an individuals' negative perception of an unfair offer and increase the acceptance of the outcome. Furthermore, the moderating effect of gender on retaliatory behavior is investigated. We show that an informational and sensitive message makes more of a difference for women in accepting unfair distributions than it does for men.

INTRODUCTION

Social accounts have been identified as communications that can mitigate the negative impact of unfavorable outcomes (Bies, 1989). For example, Schaubroek et al. (1994) show that a clear explanation for a pay freeze has a positive effect on employees' attitudes towards the organization. Similarly, accounts such as apologies can induce the victims of unfavorable treatment to be less eager to seek vengeance than they might otherwise be inclined to do (Ohbuchi et al., 1989).

This mitigating effect of social accounts has been associated with the concept of interactional fairness. Whereas distributive fairness refers to the perceived fairness of outcome allocations (Adams, 1965) and procedural fairness to the perceived fairness of the process underlying a decision (Lind & Tyler, 1988), interactional fairness relates to the quality of the interpersonal treatment (Bies, 1987). Interactional fairness encompasses two main aspects: information and sensitivity (Colquitt, 2001). The informative content of the interaction focuses on explanations why certain procedures were used or why outcomes were distributed in a certain way. Justification and truthfulness have been identified as the main criteria for the assessment of information (Colquitt et al., 2001). Sensitivity relates to the interpersonal treatment, a more content-free and somewhat more symbolic effect associated with the act of communication itself. Regarding this dimension, people care especially about being treated with politeness, dignity, and respect (Colquitt et al., 2001). Social accounts have been identified to have a positive effect on judgments of both aspects of interactional fairness (e.g. Bies & Moag, 1986; Bies & Shapiro, 1987).

Despite the substantial consideration of social accounts in the literature, most of the research to date is referring to *ex-post* communications (Skarlicki et al., 2004). That is, social accounts are provided after the unfavorable event has taken place. Only a limited number of studies examines *ex ante* communications regarding events that are occurring or have not yet happened. In contrast, these advance notices of potentially harmful outcomes are frequently found in real-life interactions. For example, firms might announce profit warnings to their investors or a manager might warn her subordinates that in the following year there will be fewer places for promotion.

One of the few studies dealing with *ex ante* communications is Skarlicki et al. (2004). They examine the effect of a polite or apologetic message on an individual's response to an unfavorable outcome offered in an ultimatum game. They show that both kinds of messages decreased, rather than increased, acceptance of the outcome as well as subjects' perceptions of fairness. A further examination revealed that perceived manipulative intent mediated participants' reactions to the messages. They conclude that if a message seems insincere and manipulative, it can exacerbate an individual's negative reaction to an unfavorable outcome accompanying the message.

The authors focus in their study only on one aspect of interactional fairness, i.e. interpersonal sensitivity. They argue that it is difficult to test for the informational aspect alone, since the transmission of information to the receiver always implies some degree of interpersonal treatment. In addition, information delivery often addresses attributional concerns and might therefore cause shifts in the attribution of the conflict, e.g. from internal to external causes. Such a change in attribution could then be the cause for a decline in retaliatory behavior (Baron, 1988).

The purpose of the present study is to examine the effect of an ex ante informational as well as interpersonal message on reactions to unfavorable outcomes and the perception of fairness. The counterintuitive effect found in Skarlicki et al. (2004) may be due to the focus on interpersonal aspects alone. In contrast, recipients might require both aspects of interactional fairness in order to value ex ante social accounts. We therefore employ a somewhat longer message containing information regarding the choice of action as well as a polite and sensitive phrasing.

However, people may have different concerns regarding these aspects. Multiple sources of differences have been identified ranging from personality attributes to group membership (for a review, see Greenberg, 1996). One variable that has been shown to potentially affect reliance on distributive or interactional fairness concerns is gender (e.g. Sweeney & McFarlin, 1997; Hallock, 1997; and for a review Cohen-Charash & Spector, 2001). Therefore, the second aim of our study is to examine gender as a moderator of the compensatory effect of social accounts on the acceptance of unfavorable outcomes.

An extensive literature examines gender differences in the perception of distributive fairness. Early field studies that explored the satisfaction with outcomes have produced somewhat inconsistent findings. Sauser & York (1978) and Varca et al. (1983) report that in comparable situations women are more satisfied with their pay than men whereas Lambert (1991) and Bokemeier & Lacy (1986) indicate that women and men do not differ significantly in satisfaction. Still others like Weaver (1974) find men to be more satisfied than women. In ultimatum games, Slonim & Roth (1995) found that women are less likely to accept unfavorable offers than men while Solnick (1997) found that women are more willing to accept these offers.

Some authors have examined gender as a moderator of interactional fairness. Most of them find that women value interactional fairness more than men (e.g. Hallock, 1997). Cross and Madson (1997) argue that many gender differences can be seen as reflecting fundamental differences in interdependence. Specifically they show that women are relatively more interdependent. They are thought to put more energy in the formation and maintenance of social and intimate relationships than in getting ahead (Rosener, 1990; Cross and Madson, 1997; Markus and Kitayama, 1991). They are more sensitive to the behavior of close friends (Gabriel and Gardner, 1999), have higher affiliated needs, and achievement behaviour is motivated by a desire to please (Hoffmann, 1972). Women tend to be more aware of others and be able to accept other people's point of view and are likely to solicit participation from a group (Rosener, 1990). In a social dilemma setting, Stockhard et al. (1988) found women slightly more cooperative than men, and women's cooperation more sensitive to the existence of opportunities for discussion than men's. Women fear harsh negotiations to disrupt the relationship they value and to compromise their position at work and thus set lower aspiration levels than men in negotiations (Stevenson et al., 1993; Kaman and Hartel, 1994). We therefore hypothesize that social accounts make more of a difference for women than for men when it comes to accepting unfavorable distributions.

Different methods have been applied to explore the effects of fairness concerns. We follow Skarlicki et al. (2004) and employ an ultimatum game setting where two players must divide a fixed amount of money. The following rules apply: The first player proposes a division. The second player can accept the division, in which case the money is split according to the first player's proposal, or reject the proposal, in which case neither player gets anything except the show-up fee. Researchers are

especially interested in the second player's reaction to proposals where she is offered only a small fraction of the money. These offers are commonly rejected, even though the player would benefit materially from acceptance (see Güth et al., 1982, and for a review Roth, 1995). This behavior shows a concern for equitable distributions.

We employ the ultimatum game in our study for several reasons. First, subjects' decisions have direct monetary consequences. The game is therefore able to show strong concerns for equitable distributions, since subjects are willing to forego sometimes considerable amounts of money (Cameron, 1999). Second, many organizational interactions produce situations where one individual makes a "take-it-or-leave-it" offer to the other (Pillutla & Murnighan, 1996). Third, since our study relates to the findings of Skarlicki et al. (2004), we employ the same method as they do. Fourth, the game can be easily replicated by other researchers. Finally, although the interactions are somewhat limited in that both players have no history or expected future, they provide a basis for clear tests of theoretical predictions and for evaluating whether fairness can explain differences in a person's reaction to a given outcome (Pillutla & Murnighan, 1995).

Clearly, apart from the starkness of interactions, the method shows other limitations. In particular, the ultimatum game assesses subjects' reaction to objective outcome favorability whereas fairness concerns are constituted by a subjective judgment. We address this limitation and additionally measure fairness perceptions in a post-experimental questionnaire.

Based on the above described findings, we examine the following hypotheses:

Hypothesis 1: Unfavorable outcomes are more acceptable if accompanied by an informational and sensitive message.

Hypothesis 2: Respondents who receive such a message will perceive the unfavorable outcome as more fair than will respondents who receive no such message.

Hypothesis 3: The compensatory effect of such a message on unfavorable outcomes is stronger for women than for men.

Hypothesis 4: Women who receive such a message will perceive the unfavorable outcome as more fair than will men.

To our knowledge there have been no prior studies involving ultimatum games to investigate these hypotheses.

EXPERIMENTAL DESIGN AND PROCEDURES

A control treatment (C) was designed to test for distributive fairness alone. Subjects played a mini-ultimatum game where two players must divide 6 Euros. The first player proposes a division. We allowed for three splits of the money: 5:1, 3:3 and 1:5. The second player can accept the division, in which case the money is split according to the first player's proposal, or reject the proposal, in which case neither player gets anything except the show-up fee.

We designed the second treatment (M) to test for the effect of an ex ante informational and sensitive message. Given the findings of Skarlicki et al. (2004), it was important for us that the responder should consider the interaction as not manipulative. We therefore established the responder as the originator of the interaction. The following structure applied: Before player one could propose a division, the responder had the possibility to ask him for a message. Responders could only indicate whether they wanted to receive a message or not. They were not able to influence the content of the message. Furthermore, the responder knew that the proposer was not obliged to follow her request. Responders therefore should feel less manipulated when receiving a message.

We followed Skarlicki et al. (2004) and prefabricated the text of the message. In a pre-test with 15 first-year students we tested different messages and selected the one that was considered to be most sincere and authentic (see the message in the Appendix). The first part of the message tries to establish a friendly and polite atmosphere. The second part gives some information regarding the reasoning of player one with respect to the following aspects: the formation of his decision; his expectation regarding the responder's reaction; a replication of the information (already given to all players at the beginning of the experiment) that they will play the game twice, first as a responder and then as a proposer.

In our experimental design we employed the strategy method often found in economic experiments and first introduced by Selten (1967). Responders had to give their reaction for each potential proposal. This way we were able to collect data on a player's complete strategy. Participants played the game twice, first as a responder and then as a proposer. We used a no feedback design where the results of the first game were only disclosed after the second game had been played. Subjects in both treatments were informed that they played first as a responder and then as a proposer with a different counterpart in each of the games. Since we were only interested in the behavior of the responders, this method allowed us to have every responder play without any prior information regarding the game. Subjects played the second round as a proposer only to allow us to actually match the two players' decisions after the two games in order to calculate the payments for each player.

Subjects were students from three German High Schools in their final school year aged between 18 and 19. The nature of the task and the aim of the study were not revealed. Participation was voluntary. To preserve anonymity, each subject was assigned a number so that no names appeared on any experimental materials. The experiment took place in November and December 2006. Subjects were paid a show-up fee of €2 and their winnings from one of the games, if any. Overall, 108 students participated.

In order to assess subjective perceptions of fairness we conducted a post-experimental questionnaire. In both treatments we asked the subjects whether they perceived the unfavorable offer (5:1) as fair. In addition, in treatment M we asked whether the message enhanced the fairness of the game. Furthermore, in this treatment we inquired about the perception of the message. Subjects had to indicate whether they had perceived the message as: informative, manipulative, friendly, polite, and sincere.

LIMITATIONS

We designed our message to contain different aspects of social accounts. This umbrella concept has some downsides. In particular, our message reminds the responder that she will act as a proposer in the next game, although with a different counterpart. This might reframe the distributive fairness perceptions of the responder. However, we tried to address this limitation by pointing out this information to the responders in both treatments C and M before they started the first game.

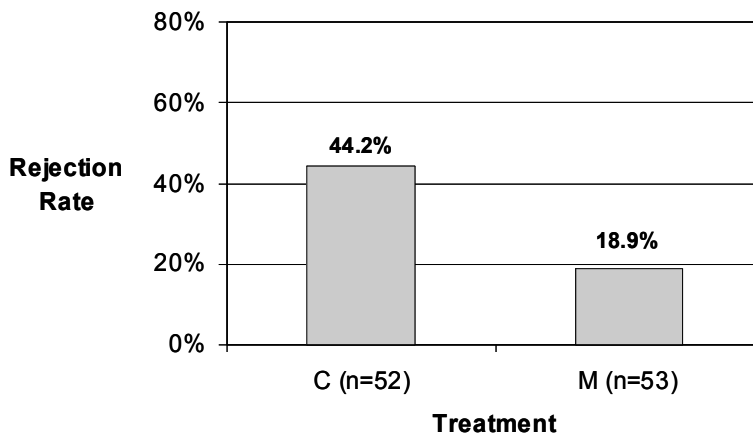
Furthermore, the introduction of the possibility for the responder to request a message shows some limitations. In particular, subjects could perceive this possibility as being given some (although very restricted) form of voice, constituting a form of procedural fairness (Folger, 1977). They might therefore feel more responsible for the outcome and more inclined to accept even a low offer. We address this limitation in our post-experimental questionnaire. There, subjects had to indicate whom they perceived as being responsible for the allocation decision. They were asked to evaluate the responsibility of the proposer, the experimenter, and themselves. An increase in the perception of oneself being responsible for the decision could serve as an indication for a significant effect of having voice, which we did not find in our results. Nevertheless, this form of message request represents a limitation of our approach.

RESULTS AND DISCUSSION

Overall, data were collected for 108 subjects. Fifty-two (20 females, 32 males) were in treatment C, the basic mini-ultimatum game. This treatment provides the basis of comparison. Fifty-six subjects (34 females, 22 males) were in treatment M, in which player two was allowed to request a short message from player one. All in all three responders in treatment M did not obtain the requested message from the proposer. We eliminated these subjects from our data leaving us fifty-three subjects (33 females, 20 males) for our empirical analysis.

To test our hypotheses we are interested in the variations of responders' reaction to the unfair offer (5:1) across both treatments. Figure 1 displays our results on rejection rates. The bars represent the percentage of responders that reject the 5:1 offer in the two games.

Figure 1: Average Rejection Rates by treatment

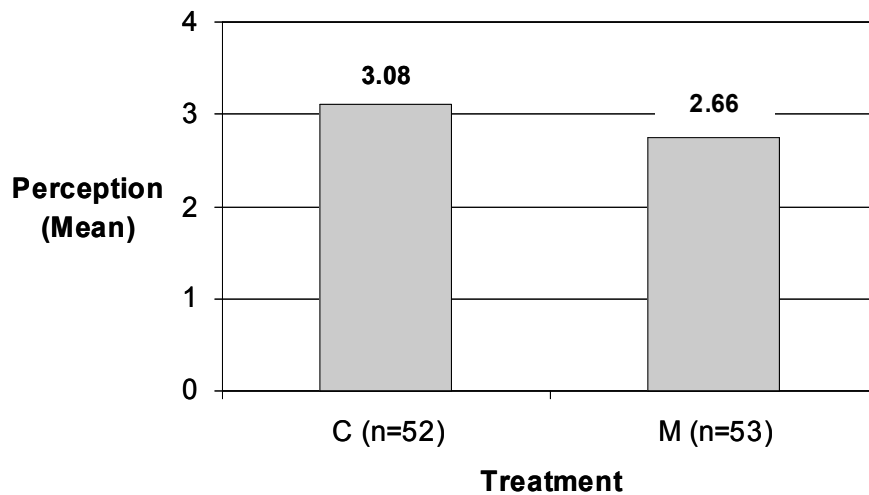


The average rejection rate in the basic mini-ultimatum game (treatment C) is higher than in treatment M. Twenty-three of the fifty-two responders rejected the (5:1) offer, which accounts for

44.2 percent. With ten subjects (18.9 %) rejecting the unfair offer in treatment M, average rejection rate is well below treatment C. The descriptive results support our first hypothesis. To test significance we applied the non-parametric Chi-Square test. It is used to determine differences between autonomous sample groups if data is measured on a nominal scale. Analyzing the available data we find significant support for a difference between treatments C and M with Chi-Square = 7.835 and a p-value = 0.005. This result corroborates our first hypothesis that when a distribution is unfair, an informational and sensitive message does have a significant impact on a recipient’s action, i.e. on a recipient’s rejection behavior.

To verify our second hypothesis regarding the perceived fairness of the unfavorable outcome, we asked responders in a post-questionnaire whether the unfavourable offer (5:1) was perceived as fair on a four point likert-scale (1 = definitely yes, 4 = not at all).

Figure 2: Fairness Perception by Treatment



Visual as well as statistical assessment (Mann-Whitney-U = 1053; $p < 0.05$) of group differences of the subjective assessments of fairness between the treatments supports our hypothesis 2.

Additionally we asked those participants playing treatment M if the message enhanced the fairness of the game (1 = definitely yes; 4 = not at all). The results (66 % stating definitely yes respectively yes; mean = 2.25) suggest a fairness enhancing effect of the message.

We used binomial and ordinal logistic regression analyses to statistically examine our third and fourth hypothesis. Treatment and gender variables were entered at a first step. On a second step a product term representing the gender x treatment interaction was entered. Table 1 summarizes the results of the regression analysis for the dependent variable.

Table 1: Results of Logistic Regression Analysis

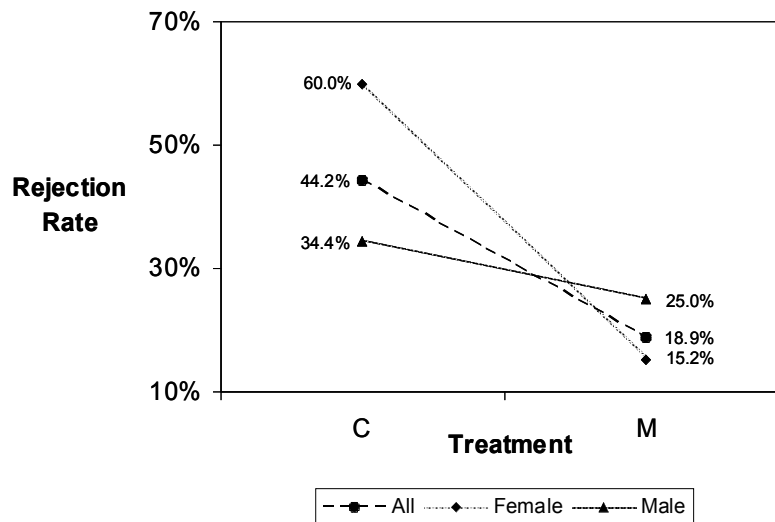
Independent variables	Betas for dependent variable	
	Rejection Rate ¹	Perception of Unfairness ²
Message	1.064*** (0.333)	0.846*** (0.278)
Gender	1.830** (0.952)	2.167** (0.870)
Message x Gender	-0.839* (0.461)	-0.769* (0.379)
Nagelkerkes R ²	0.152	0.116
Hosmer-Lemeshow-Test	0.000	0.000 ³
Number of subjects	105	105

*p<0.1; **p<0.05; ***p<0,001; () standard deviation

¹ binomial logistic regression; ² ordinal logistic regression; ³ for all three partial binomial logistic models

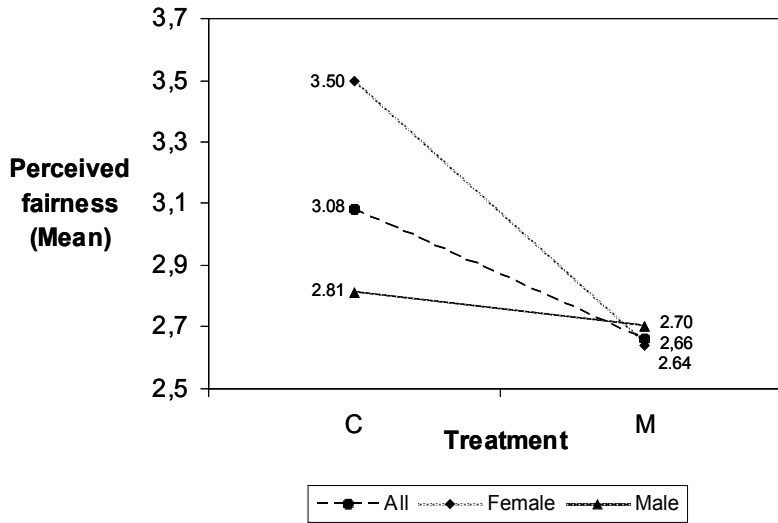
We find, consistent with our hypothesis 3, a significant message x gender interaction (beta = -0.839, p < 0.1) regarding rejection rate. This interaction is plotted in Figure 2 and shows that an informational and sensitive message makes more of a difference for women in accepting an unfair distribution than it does for man. In treatment M, significantly fewer women show retaliatory behavior whereas a message appears to have less impact on men’s retaliatory behavior.

Figure 3: Gender by Procedural Fairness Interaction for Rejection Rate



Furthermore, in corroboration of our hypothesis 4, we find a significant interaction (beta = -0.769, p < 0.1) regarding perceived fairness. By and large the same effects could be seen. The interaction is plotted in Figure 4.

Figure 3: Gender by Procedural Fairness Interaction for Fairness Perception



As the purpose of this study was to examine the effect of an informational as well as sensitive message we asked participants in a post-questionnaire whether the message was perceived as informational, manipulative, friendly, polite, and sincere on a four point likert-scale (1 = definitely yes, 4 = not at al). With 79.2% of all participants stating that the message was informative (mean = 1.85) and 84.9% stating that the message was not manipulative (mean = 3.23), we conclude that the message indeed shows the intended informational aspect. The same held for the intended impression of sensitivity. The message was perceived as friendly (mean = 1.40), polite (mean = 1.52), and sincere (mean = 1.33).

To verify robustness of our findings we conducted various non-parametric tests on the difference between players in treatment C and M. As mentioned before, the possibility of giving some form of voice could constitute a form of procedural fairness. Due to the possibility to request a message it could be argued that responders perceive themselves responsible for the allocation as opposed to the proposer. We could have found a source effect here that has to be distinguished from the type of fairness (Cropanzano et al., 2001). To rule out this source effect we asked the subjects in both treatments if the proposer was responsible for the allocation, the experimenter, or the subject themselves (1 = definitely yes, 4 = not at all). We find no indication of significant differences between the players' assessments in treatment C and M.

Table 2: Statistical Differences between Subjects in Treatment C and M

Dependent variables	Treatment C – Mean	Treatment M - Mean	Mann-Whitney-U
Responsibility of proposer	1.50 (0.610)	1.65 (0.796)	1228.00
Responsibility of experimenter	3.44 (0.698)	3.28 (0.769)	1221.00
Own responsibility	3.88 (0.323)	3.79 (0.454)	1274.00

*p<0,1; **p<0,05; () standard deviation

To avoid group biases which might affect rejection rates in the different treatments, we conducted both treatments in all three of the participating high schools. There are no significant differences between the sub-samples regarding rejection rates within each treatment.

Furthermore, as all players assumed the position of recipient and proposer consecutively, we are able to test if offers are in general conjunction with empirical findings in the literature. If so there is strong indication that our sample does not differ significantly from those in comparable studies. All in all, just one subject proposed the 1:5 allocation (0.9%) whereas 18 subjects (17.1%) chose the 5:1 offer. 81.9% or 86 subjects decided to offer the even allocation 3:3. Average retained allocation is with 55.4% of the total amount of 6€ fairly consistent with past results from comparable game settings, e.g. Forsythe et al. (1988) with 54%, Güth and Tietz (1986) with 65% and Güth et al. (1982) with 67%.

A comparison of the rejection rates for the unfair offer in treatment C with past studies shows similar consistencies. Experimental results suggest that if offers account for less than 15-20 % of the total, they are frequently rejected (Camerer and Thaler, 1995, Kahneman et al., 1986). In our game setting, the unfair offer accounts for 16.7% of the total. Given the evidence, our finding is in general accordance with those of Bolton et al. (2005) with a 41 % rejection rate or Falk et al. (2003) with a 44 % rejection rate.

Finally, we checked on rejection rates for the equitable offer (3:3) across both treatments. There are no significant differences across both treatments, with rejection rates of 1.9% in treatment C, and 3.8% in treatment M.

Both games were played using the strategy method (normal form) first introduced by Selten (1967). The advantage of this method is that it generates data of a player's complete strategy. However, this advantage might come at a cost. Some empirical evidence indicates that the experimental form can make a difference (McCabe et al., 2000). The normal form requires the subjects to think through every alternative and therefore tends to evoke a "cold" studied effect. In contrast, the extensive form allows for a "hot" emotional response. Therefore, the normal form tends to reduce rejection rates in the ultimatum game setting. The treatment effects thus should be less pronounced in this setting. We conclude that we might have seen even more pronounced effects in our games if we had used the extensive form.

CONCLUSION

In this paper we explored the mitigating effect that an informational and sensitive message can have on outcome satisfaction and the moderating role of gender. In an ultimatum game setting we investigated both the rejection rates as well as the subjective perception of fairness.

The mitigating effect of social accounts has been extensively investigated in the psychological literature. However, there are very few experiments in the field where social accounts are provided before an unfavorable event has taken place and where subjects' decisions have a direct effect on their subsequent monetary payments. We show that an ex ante informational and sensitive message has a significant negative impact on rejection behavior when the underlying distribution is unfair. The same held for the effect on the perceived fairness of an unfavorable outcome. We are therefore able to strengthen the findings on the mitigating effect of social accounts in a controlled laboratory environment with direct payoff consequences.

In a second step we examined the role of gender in the assessment ex ante communication. We find a significant message x gender interaction. An ex ante informational and sensitive message makes more of a difference for women in accepting an unfair distribution than it does for man.

If the results obtained in this study are replicated in organizational settings, this investigation could have several implications. At the most basic level, our results clearly indicate that a sincere communication positively impacts the evaluation of workplace experience. In many situations such as promotion decisions, pay raises or the allocation of budgets, employees are faced with uncooperative games where the resulting distributions are unequal. While managers often have relatively little control over these outcomes or organizational procedures resulting in these outcomes they do have control over their interpersonal interactions with employees. In these cases, they should put a strong focus on interactional fairness aspects. To secure this behavior, organizations might invest in specialized communication trainings for managers.

In addition, our results suggest that managers need to be aware that there might be gender differences regarding the relative importance assigned to distributions and communication. This may imply different communication strategies for dealing with male and female subordinates as management tries to create an optimal environment of fairness.

Ultimately, the results of this study suggest the management and organizations as such should provide ex ante information in case of upcoming and potentially unfair situations in a very sensitive way. Furthermore, they should become aware of gender differences in emphasis on fairness-related factors that could potentially lead to perceptions of fairness.

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APPENDIX A: MESSAGE SENT IN TREATMENT M

Hi Player 2,

It is nice that I can write you a short message! I am happy to be in the lucky position to make you an offer. To be honest, I am not yet sure which of the offers I will choose. Offer 3 of course is really tempting.

I have been thinking how I would react in your position. I guess I would accept every offer to earn at least something. Of course I can only hope that you are thinking the same way. I guess you will be player 1 in the next game and then you will have the chance to make an offer to your player 2.

I am waiting curiously for your decision,

Yours, Player 1

AUTHOR BIOGRAPHY

Andreas Hack is an Assistant Professor of Innovation Management and Entrepreneurship at the Technische Universität Dortmund, Germany. Professor Hack conducts research on organizational behavior and entrepreneurship. E-mail is: andreas.hack@tu-dortmund.de.

Frauke Lammers is an Assistant Professor of Organization Theory at the WHU – Otto-Beisheim School of Management, Vallendar, Germany. Her research interests focus on behavioral economics, personnel economics and organization theory. E-mail is: frauke.lammers@whu.edu.