

Online Appendix

1. Additional Descriptions and Analysis

1.1. Experiment 1 Design

The experiment comprised three parts. In the main part of the experiment, Part 1 and Part 2, participants played 16 periods of a weak-link coordination game (van Huyck et al. 1990). These 16 periods make up a super game that models an attempt at an organizational turnaround (Brandts and Cooper 2006), whereby a group initially gets stuck in a bad equilibrium (Part 1) and a leader thereafter tries to move the group to a more efficient equilibrium (Part 2). In our experiment, Part 1 comprised the first 6 periods of the turnaround game and Part 2 its remaining 10 periods. In Part 3 we elicited participants' attitudes toward gender and leadership, using several different measurements. Below we first describe, in detail, the "turnaround" supergame that participants played in Parts 1 and 2. We then describe our experimental conditions, as well as how we measured gender stereotypes.

Roles and Payoffs in Part 1

At the beginning of a session, participants were randomly allocated to groups of 6 individuals that remained stable throughout the experiment. They were informed they would remain in these fixed groups and would interact only with each other in a repeated game. The game was presented using contextual labels corresponding to a small startup with 5 employees and a CEO.

The Employees

In each round, employees independently decided how to allocate their work time between a safe and a risky project. Each employee could choose to allocate between 0 and 40 hours to the risky project, in 10-hour increments.

The safe and the risky projects had different payoffs. For each hour an employee allocated to the safe project, the employee earned 5 ECU. This meant an employee could earn between 0 and 200 ECU from this project. The return to hours invested in the safe project did not depend on the choices of other employees in the firm or any uncertain factors. For the risky project, by contrast, all 5 employees received an equivalent payoff that depended *both* on their collective actions and on a random productivity factor. First, this payoff depended on the minimum number of hours allocated to the risky project by any employee in the firm, such that each employee's earnings from the risky project were higher

when this minimum was higher and any amounts investment above the minimum of others were wasted. Second, earnings from the risky project also depended on a rate of return, r , which varied randomly from period to period and could be either low ($r=5$), or high ($r=6$). The two possible rates of return were randomly selected for each period, and equally likely to occur. The variation in the rate of return was presented to the participants as the result of factors, such as market competition, that were beyond the firm's control. The randomly selected rate of return applied equally to all employees of a firm, was independently drawn across periods and was shown to subjects at the end of each round, after the employees had decided how to allocate their time.

The per period payoff of individual i in group g was thus determined by the formula:

$$\pi_{i,g} = 200 - 5 * h_{risky,i} + r * \min \{h_{risky,g}\}$$

Where $h_{risky,i}$ denotes the hours that employee i allocates to the risky project, and $\min \{h_{risky,g}\}$ is the minimum amount of time allocated to the risky project by any of the employees. Table 1 presents the payoffs that arise for different combinations of an individuals' investment decision, the minimum investment in the risky project in the group and the return rate.

Table 1 Employee payoffs in Part 1

Hours spent on the risky project	Minimum hours spent by others on the risky project					Minimum hours spent by others on the risky project				
	0	10	20	30	40	0	10	20	30	40
0	200	200	200	200	200	200	200	200	200	200
10	150	200	200	200	200	150	210	210	210	210
20	100	150	200	200	200	100	160	220	220	220
30	50	100	150	200	200	50	110	170	230	230
40	0	50	100	150	200	0	60	120	180	240
	<i>Rate of return = 5</i>					<i>Rate of return = 6</i>				

The inclusion of the random rate of return differs from previous versions of the turnaround game which involves no underlying risk (Brandts and Cooper, 2006). We made this modification because we thought, if anything, that the presence of risk may enhance the

perception of women as less effective leaders. This was also the motivation for applying the labels of “startup firms” to groups and “CEOs” to groups and leaders.

This stage game has five pure-strategy Nash equilibria, in which all employees invest the same amount of hours in the risky project. The equilibria are Pareto ranked with higher investment rates in the risky project yielding higher expected returns for all members of a group. In Part 1, payoffs were chosen such that the uncertain higher returns to successful coordination were relatively small in magnitude compared to the guaranteed cost of foregoing the certain return to investing in the safe project, making it difficult for groups to reach efficient equilibria.

After each round, the employees received a summary of what happened in that round and in all previous rounds. The summary included information about the rate of return for the risky project, the number of hours the participant had allocated to the risky project in that round, the minimum number of hours allocated to the risky project in the group in that round and the employee’s own payoff. Employees also observed the CEO’s payoff, which we describe below.

The CEO

In Part 1, the first 6 rounds of the game, the CEO observed the decisions of the employees, but made no active decision. In each period, the CEO received a payoff equal to the average earnings of the employees in the firm. At the end of each period, the CEO received information about the rate of return for the risky project, the minimum number of hours spent on the risky project within the firm, the CEO’s payoff as well as the CEO’s accumulated payoffs across all previous periods.

There was thus no leadership in Part 1 of the experiment, but this part allowed CEOs to obtain familiarity with the game and to observe their employees failing to coordinate on equilibria with higher expected returns.

Part 2: Attempting a turnaround

Part 2 differed from Part 1 in two ways intended to give groups the opportunity to escape from the inefficient equilibrium induced in Part 1. First, the randomly chosen rate of return to the risky project increased to 8 in case of a low return, and 10 in case of a high return. Second, in Part 2, CEOs took an active role and were given the opportunity to lead their group to a more desirable equilibrium.

At the onset of each round in the second part, the CEO sent a message to all employees in the firm. The CEO sent a message by typing into a box that was available on the computer screen for 90 seconds. CEOs were free to write any messages they chose, but

were required to write at least 15 characters and were instructed to avoid personal information and offensive language. The CEO and the employees advanced to the next stage only after the CEO had sent a message.¹ Employees then read the message from the CEO and decided how to allocate their time between the two projects.

The employees' payoffs were calculated in the same way in Part 2 as in Part 1. The randomly chosen rate of return was either high or low, each with a 50% probability, and was communicated at the end of each period. The corresponding payoffs for each possible return rate are shown in Table 2.

Table 2 Employee payoffs in part 2

Hours spent on the risky project	Minimum hours spent by others on the risky project					Minimum hours spent by others on the risky project				
	0	10	20	30	40	0	10	20	30	40
0	200	200	200	200	200	200	200	200	200	200
10	150	230	230	230	230	150	250	250	250	250
20	100	180	260	260	260	100	200	300	300	300
30	50	130	210	290	290	50	150	250	350	350
40	0	80	160	240	320	0	100	200	300	400
	<i>Rate of return = 8</i>					<i>Rate of return = 10</i>				

For the CEO, the payoff in the second part consisted of both a fixed and a variable component. The fixed payment amounted to 150 ECU per period. The variable payment was calculated as the product of the minimum amount of hours spent on the risky project and the rate of return to the risky project. More precisely, the payoff for the CEO was determined by the formula:

$$\pi_{ceo,g} = 150 + r * \min \{h_{risky,g}\}$$

Therefore, the incentives of the CEO and the employees in a firm were perfectly aligned, as both benefitted from higher minimum investment in the group. However, in Part 2 the CEO typically earned more than the employees in groups that successfully coordinated on an equilibrium with high investment in the risky project. For instance, full investment in the risky project yielded an expected payoff of 510 for the CEO and 360 for employees. Such an asymmetry is intended to reflect patterns in real-world compensation.

¹ If the CEO had not finished typing the message after 90 seconds, he was reminded that the time was up.

Experimental Conditions

The experiment comprised 4 treatments in a 2x2 design, varying the gender of the CEO, and whether or not the gender of the CEO was known to the employees. Each session consisted of 24 subjects, who were divided into four groups consisting of a CEO and five employees. At the onset of a session, four participants were randomly selected to take leadership roles. The randomization was stratified such that each session included two groups with a female leader, and two groups with a male leader. To maintain approximate gender balance in each session, we recruited equal numbers of male and female participants.

The different treatments were implemented in Part 2, and each of the 4 groups in a session was randomized to a different treatment.

At the beginning of Part 2, subjects were informed that the employees in a firm might be able to see the CEOs photograph, that this occurred either for all employees or for none of them in a firm, and that the CEO would not know whether his or her photograph was shown to employees.² The computer then randomly selected one group with a male CEO and one group with a female CEO to have the leader's photograph visible to employees during all rounds in Part 2 alongside the leader's message. The employees in all groups remained anonymous to each other and to the CEO. Photographs of each participant were taken at the beginning of the experiment. Participants were made aware of the use of photographs in the invitation e-mail, and were reminded at the beginning of the study, before they decided whether to participate and acknowledge informed consent.

Part 3: Survey

At the end of the 16 rounds of the turnaround game, participants completed a set of questions intended to measure their attitudes toward gender and leadership. They also completed a questionnaire identifying individual characteristics.

As a first measure, we elicited participants' beliefs about the effectiveness of female and male leaders in our experimental setting. With this, we aimed to directly measure biases regarding the expected performance of men and women as leaders in the context of our experiment. Specifically, we presented all participants with the portraits of the *previous* session's four CEOs. The portraits were presented to each participant in a random order. Participants were then asked in an incentivized way to estimate the effectiveness of the each of the four CEOs. Specifically, we asked participants to estimate the average number of

² We kept CEOs uninformed in order to prevent them from changing their messages in response to awareness that their pictures were visible to employees.

hours that employees in the CEO's firm invested in the risky project in Part 2. Participants were asked to provide estimates for both a scenario in which the CEO's picture was shown to employees, and the scenario in which it was not.

We then showed employees in the two groups with unknown CEOs the portraits of both the male CEO and female CEO who had not had their portraits revealed. Thus, one of the CEOs shown had actually been the CEO of these participants during Part 2. We asked each of these participants to guess which of the two leaders presented in the pictures had been their CEO. While this task was not incentivized, it provides us with information on whether participants could guess from the messages they had received in Part 2 whether their CEO was male or female. Participants in the condition where the leader identity was revealed were asked, instead, whether they were previously familiar with their CEO.

Participants then completed a questionnaire. The questionnaire included measures of socioeconomic status, labor market experience, political orientation and risk attitudes. In addition, participants answered the 15 questions included in the Gender and Authority Measure (GAM) (Rudman and Kilianski2000).

Finally, before they were paid, subjects took part in an Implicit Association Test (IAT) (Greenwald, McGee and Schwartz, 1998; Nosek, Greenwald and Banaji, 2003).

Experiment procedures

The experiment was conducted in English at the Laboratory for Experimental and Behavioral Economics at the University of Zurich. In total, 600 participants from the University of Zurich and the Swiss Federal Institute of Technology in Zurich participated in the experiment. Table 1 lists the number of participants in the different conditions. We oversampled groups in which the gender of the leader was visible to followers. All instructions can be found in Section 2 of this Online Appendix. The instructions were distributed before the relevant part. In addition to examples illustrating the payoffs for different choices by the employees in a firm, participants received printed tables with the relevant payoffs for all possible outcomes. Before Parts 1 and 2 participants also answered comprehension questions, and the study only advanced after all participants had answered the questions correctly. Payments were displayed in experimental currency units (ECUs), which were converted to CHF at a rate of 150 ECU per CHF. All periods were paid out and average earnings were 44.76 CHF (including a 15 CHF show-up fee).

Table 3. Session Overview and Number of Observations (Experiment 1)

Treatment	Groups	Leaders	Followers (men, women)
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Female Leader Gender Visible	30	30	150 (79,71)
Male Leader Gender Visible	30	30	150 (75,75)
Female Leader Gender Blind	20	20	100 (56, 44)
Male Leader Gender Blind	20	20	100 (44, 56)
Total	100	100	500

Additional data collection after completion of experimental data collection

After the main data was collected, we hired research assistants to code the messages sent by the leaders, and to rate characteristics of the leaders' pictures. We hired 10 native English speakers from the same subject pool as our study participants to categorize the content of the messages the leaders sent according to pre-determined categories that we defined. We coded messages into several categories, similar to those employed by Brandts and Cooper (2007) and Brandts et al. (2015). We had ten individuals from the same subject pool as our study classify the messages sent by leaders into as many of 13 categories that they thought applied (see Table 8 for a list of the categories and summary statistics). For instance, they indicated whether a leader suggested to invest 30 hours in the risky project ("suggested effort level 30") or whether the leader appealed to risk-seeking ("appeals to risk-seeking") in her request for higher investment in the risky project.

1.2. Measurement of Gender Bias in Experiments 1 and 2

With the Gender and Authority Measure (GAM) (Rudman and Kilianski, 2000) respondents indicate their explicit preference for male versus female authorities. It comprises 15 questions like, "I would feel more comfortable if the pilot of an airplane I was traveling on were male" or "I would rather work for a man than a woman." It is scored on a scale from 1-5 and scores above 3 indicate a preference for male over female authorities, with higher scores indicating a stronger preference

The Implicit Association Test (IAT) (Greenwald, McGee and Schwartz, 1998; Nosek, Greenwald and Banaji, 2003) measures the strength of participants' implicit association between leadership and gender. Participants were asked to sort stimuli that appeared sequentially on their computer screen with keys on their keyboard as quickly as possible into one of four categories. Stimuli represented the categories "male/female" and "leader/follower." We used words as stimuli, for example, "Leader, Chief, Director, Manager, Head" and "Follower, Assistant, Supporter, Helper, Aide." Association strengths

are measured by comparing the speed of categorizing stimuli of the four categories in two different sorting conditions (Nosek, Greenwald and Banaji, 2003). For example, if the concepts “Leadership” and “Men” are more strongly associated than the concepts “Leadership” and “Female,” participants should categorize stimuli faster in a condition in which stimuli representing “Leadership” and “Men” share the same response key on their keyboard compared to conditions in which “Leadership” and “Women” share the same response key. We slightly adapted the standard leadership and gender IAT protocol (see e.g. Northouse 2012) to fit our subject pool better. Specifically, we replaced the English female and male names (e.g. Karen and Richard) with names that are very common in the 1990 birth cohort in German speaking countries (e.g. Julia and Tobias). We used the software Inquisit 5 (2016) to score the differences in response time and to administer the IAT.

There is an ongoing debate about the test-retest reliability of the IAT that researchers interested in using this measure should be aware of. This is not crucial for the internal validity of our study since we interpret the elicitation as a proxy for Employees’ tendency to associate leadership more with masculinity or femininity at the time that they were making their investment decisions.

1.3. Leaders’ Messages in Experiment 1

In this section, we provide more data on the type of messages that male and female leaders send. While any differences in leadership style do not appear to bring about substantial differences in group performance, it is instructive to examine whether women and men differ in how they try to exert influence over the followers in the group. Moreover, in additional robustness checks we can test whether the same type of directive is treated differently when it comes from a woman.

We observed some differences in the kinds of messages sent by male and female leaders. In period 7—that is, the first time leaders sent messages—requests of 40 are made by 72 percent of male leaders and 52 percent of female leaders (test of differences in proportions with two-sided alternative, $p=0.0394$). This is in line with results presented in Reuben and Timko (2017) who find that around 70 percent of men made initial requests of 40 hours compared to around 50 percent of female leaders. In our sample, men also more often gave an explanation for their investment requests (test of differences in proportions with two-sided alternative, $p=0.0062$). Female leaders made significantly more non-specific

requests for positive investment in the risky project in this first period of Part 7 compared to male leaders (test of differences in proportions with two-sided alternative, $p=0.029$).

We next investigate whether the gender of the leader matters for the effectiveness of a message when the leader attempts to turn around the group in period 7. That is, we test whether followers treat comparable advice of leaders differently when it is given by a woman or a man. To do so, we performed additional regression analysis with data from groups in which the gender of the leader was known. We estimated the following generic model for each of the most common message categories in the first period of Part 2:

$$hours_{i,g} = \beta_0 + \beta_1 I_{female\ leader} + \beta_2 I_{category} + \beta_3 I_{female\ leader} * I_{category} + \beta_4 performance\ part\ 1_g$$

The dependent variable is hours invested in the risky project by follower i in group g . $I_{female\ leader}$ and $I_{category}$ indicate whether the leader was a woman and whether the message sent by a leader in the first period 7 was coded to be in that category. The variable $I_{female\ leader} * I_{category}$ is an interaction term. The coefficient β_3 indicates whether advice from women has a different effect than comparable advice by men. The results for the six most common messages in Period 7 are presented in Table D1 of this Online Appendix.

We once more find that advice by female leaders is equally effective as the advice of male leaders, in this case when we condition on the types of messages used. For instance, while a suggestion of 40 has a strong positive effect on investment in the risky project, this effect is only slightly weaker for women and this difference is not statistically significant. Thus, in general, we do not find that the most effective form of advice is treated systematically differently by followers when it is provided by a female leader than when it comes from a man. Interestingly, the only case in which there seems to be a difference is for messages that are written in an assertive tone, which increases the average performance in groups by about 8 hours when men send such messages, but has virtually no effect when the message is sent by a woman.³

Finally, as with Period 7, women sent slightly different messages than men across the entirety of Part 2. For example, women much more frequently gave negative feedback about previous outcomes than men (frequency women leaders 30%, frequency male leaders 8%). 51 percent of all messages written by male leaders specifically asked their group to invest

³ 6 out of the 24 female led groups had a leader that communicated in an assertive tone in the first period, for groups led by men this number is 7. We do not see this relationship in groups in which the gender of the leader was not known, which suggests an interaction between gender visibility and assertive tone in messages.

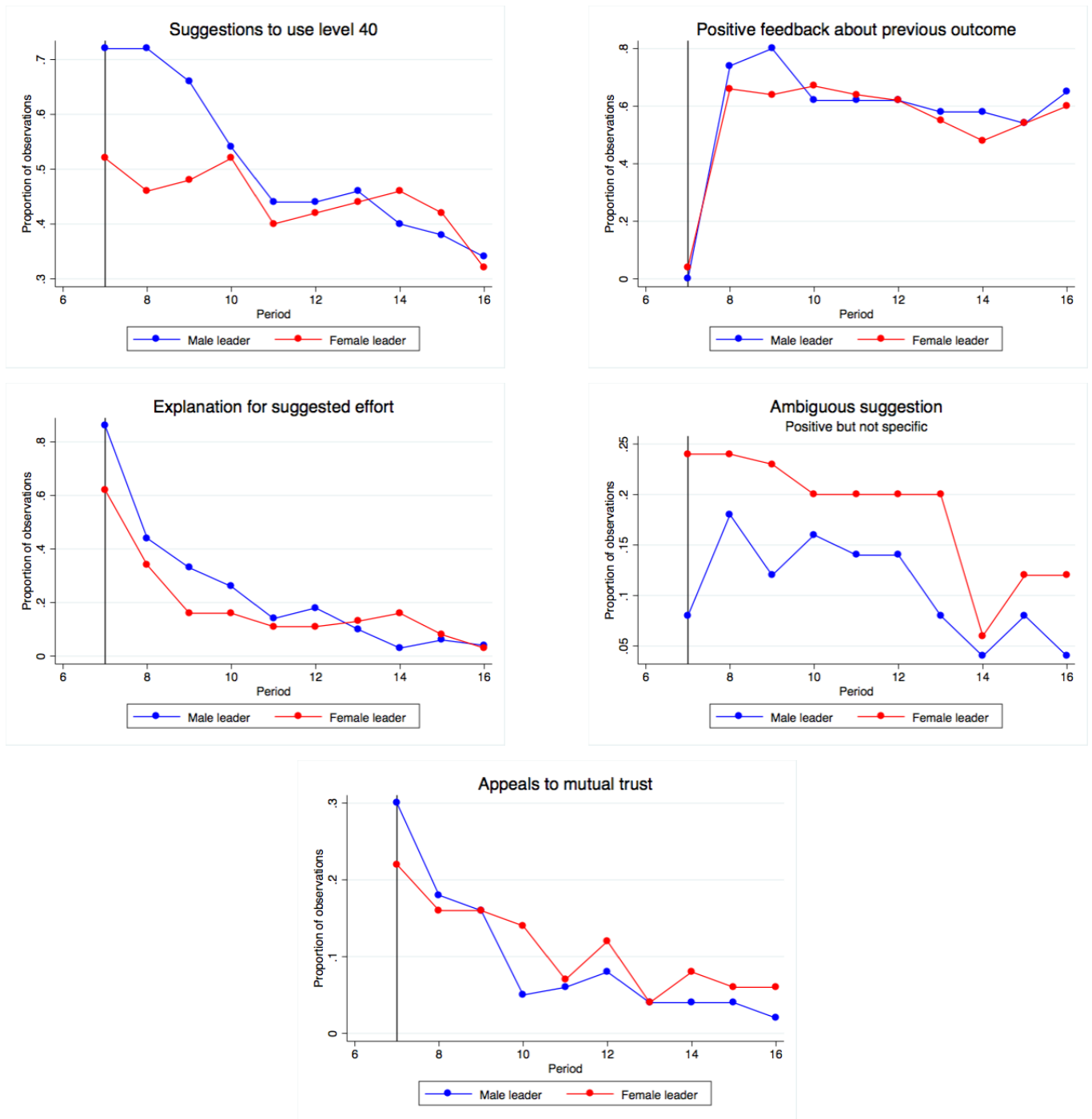
40 hours in the risky project, while this number is 44 percent for female leaders and the difference in proportions is statistically significant (test of difference in proportions with two-sided alternative, $p= 0.0367$). Also, men significantly more often provided an explanation for the effort level they suggested (test of difference in proportions with two-sided alternative, $p= 0.0261$). The differences in leadership style were largest initially as Figure D1 of this Online Appendix reveals convergence over time. But, as we have shown in the main paper, these differences do not produce systematically different group outcomes under female leadership compared to male leadership.

Table D1. OLS Regressions Testing for Differential Responses to Message Content by Leader Gender

	OLS Regressions Predicting Hours invested in Risky Project in Period 7 (Groups with Known Leader)					
female leader	2.000 (3.389)	-0.349 (2.500)	-1.033 (2.604)	-2.000 (6.567)	0.983 (2.714)	-1.826 (2.267)
suggest 40	14.82*** (2.961)					
fem leader X suggest 40	-2.996 (3.480)					
suggest ambiguous positive		-0.959 (3.831)				
fem leader X suggest ambiguous positive		-2.684 (4.632)				
appeal trust			-1.696 (3.834)			
fem leader X appeal trust			0.173 (5.341)			
explanation				2.939 (6.567)		
fem leader X explanation				2.433 (7.012)		
assertive tone					8.077*** (2.186)	
fem leader X assertive tone					-7.246** (3.537)	
supplicating tone						-11.67 (13.01)
fem leader X supplicating tone						12.91 (13.67)
Performance part 1	0.338*** (0.118)	0.305* (0.160)	0.271* (0.144)	0.327** (0.140)	0.223 (0.152)	0.258 (0.158)
Constant	23.45*** (2.896)	32.96*** (1.920)	33.39*** (2.067)	30.40*** (6.354)	31.03*** (2.118)	33.67*** (1.534)
N of followers	300	300	300	300	300	300

Notes. Robust standard errors in parentheses (clustered at the group level). *Significant at the 10% level, ** at the 5% level, *** at the 1% level.

Figure D1. Frequency of Message Categories Over Time by Gender of the Leader



Notes. Figures display frequency of message categories by gender of the leader over the course of Part 2. The five most frequent message categories overall are displayed.

1.4. Leaders' Messages and Pictures in Experiment 2

Table D2. Message Categories and Corresponding Frequencies (Experiment 2)

Category	Description	Overall Frequency or Mean		p-value diff.	α
		<i>Men</i>	<i>Women</i>		
<i>binary</i>					
Risk	Mention of risk	0.188	0.167	0.789	0.193
Coordination	Mention of coordination	0.208	0.125	0.273	0.773
CEO quality	Mention of CEO or CEO quality	0.146	0.208	0.423	0.507
Mention Investor	Mention of investors	0.604	0.646	0.673	0.480
Mentions Product	Mention of product/product details	0.521	0.646	0.214	0.613
Creative	Employs creativity or imagination	0.354	0.354	1.000	0.210
Sustain. or social resp.	Mention of sustainability/Soc. responsibility	0.208	0.396	0.045	0.675
Profit	Mention of profit	0.625	0.542	0.408	0.527
Competing firm	Mentions the competing firm	0.333	0.104	<0.01	0.6234
Humor	Uses humor	0.167	0.167	0.563	0.476
<i>ordinal 0-6</i>					
Assertive	Adopts forceful/assertive tone	4.621	4.204	0.140	0.449
Personal	Adopts personal/friendly tone	3.733	4.171	0.047	0.194
Grammar	Uses correct grammar	5.400	5.121	0.233	0.370
Good leadership	Message reflects qualities of a good leader	3.558	3.808	0.326	0.311
Charismatic	Message is charismatic	3.875	3.954	0.723	0.220
<i>continuous 0-1</i>					
Length	Fraction of longest message in sample Continuous (0-1)	0.601	0.687	0.159	n.a.

Notes: To aggregate 5 independent ratings for each leader in our sample, we took the median rating (for binary measures) and the average rating (for categorical variables). P-values of the gender gap are obtained from two-sided tests of proportions or t-tests. The last column shows Krippendorff's alpha, a measure of intercoder agreement that is suitable for binary and ordinal data. A κ of 1 means perfect agreement and a value of 0 implies no more agreement than what would be expected by chance. Typically, values between 0.41 – 0.60 are interpreted to indicate moderate agreement, values between 0.61 – 0.80 to indicate substantial agreement and values above 0.81 to indicate almost perfect agreement.

Table D3. Portrait Categories and Corresponding Frequencies (Experiment 2)

Category	Description	Overall Frequency or Mean		p-value diff.	α
		Men	Women		
Choose leader	Would you choose the person in the picture as a leader? (0=No , 1=yes)	0.188	0.229	0.479	0.063
<i>Rating of the extent to which the person in the picture looks...</i>					
Charismatic	categorical (0-6)	2.642	2.904	0.114	0.123
Dominant	categorical (0-8)	3.304	3.275	0.887	0.070
Masculine	categorical (0-8)	6.725	0.854	<0.01	0.727
Feminine	categorical (0-8)	0.892	6.850	<0.01	0.739
Assertive	categorical (0-8)	4.321	4.267	0.716	-0.042
Cautious	categorical (0-8)	4.429	4.842	0.041	0.059
Caring	categorical (0-8)	3.896	4.450	<0.01	0.056
Trustworthy	categorical (0-8)	3.867	4.350	0.013	0.106
Persuasive	categorical (0-8)	3.988	3.833	0.388	0.024
Nice	categorical (0-8)	4.342	4.962	<0.01	0.287
Intelligent	categorical (0-8)	4.892	4.917	0.900	0.110
Likeable	categorical (0-8)	4.375	4.729	0.105	0.253
Competent	categorical (0-8)	4.450	4.671	0.258	0.060
Attractive	categorical (0-8)	3.587	4.317	0.010	0.384

Notes: To aggregate 5 independent ratings for each leader in our sample, we took the median rating (for binary measures) and the average rating (for categorical variables). P-values of the gender gap are obtained from two-sided tests of proportions or t-tests. The last column shows Krippendorff's alpha, a measure of intercoder agreement that is suitable for binary and ordinal data. A κ of 1 means perfect agreement and a value of 0 implies no more agreement than what would be expected by chance. Typically, values between 0.41 – 0.60 are interpreted to indicate moderate agreement, values between 0.61 – 0.80 to indicate substantial agreement and values above 0.81 to indicate almost perfect agreement.

1.5. Data Selection for Appendix Figure A2

In this section, we describe how we selected the data from the two related studies Grossman et al. 2019 and Reuben and Timko 2018 for Figure 1. We thank Ernesto Reuben and Philipp Grossman for sharing their original data set with us.

In Reuben and Timko 2018, the strategy space in the weak-link game (WLG) ranges from 0 to 40 hours in increments of 10. Up to period 8, groups played the WLG without a leader. After period 8, a group leader was chosen endogenously: group members had to volunteer to become a leader and were, then, depending on the treatment arm, either 1) randomly selected from the set of volunteers or 2) elected by everyone in the group. Leaders were selected for 3 periods after which a new leader was appointed. For Figure 1 of the main

text, we use data from the authors' random selection treatment. This comes closest to our stratified random selection among all women and all men who participated in a session. In addition, we consider data from the first time a leader was introduced, that is, in period 9 of the super game. This ensures a high degree of comparability across the three studies since, across all studies, we are comparing performance of male and female leaders when groups are exposed to leadership for the first time. The unit of observation is the leader.

In Grossman et al. 2019 the strategy space in the WLG ranges from 0 to 3 USD in increments of 1. Up to period 10, groups played the WLG without a leader. After period 10, a leader gave a semi-scripted speech to all groups in a session. Then, groups were reformed and played 10 more rounds of the WLG. Grossman et al. also followed a stratified random selection of leaders where stratification was at the session level, that is, some sessions were "female leader" sessions and others were not. Again, for the treatment comparison depicted in Figure 1, we use data from period 11 of this experiment, in which the WLG was played right after the leader had given the speech. The unit of observation is the leader.

2. Instructions

This Online Appendix reproduces the handout instructions as they were distributed to participants.

2.1. Experiment 1 Instructions

Initially, the participants received only the instructions for Part 1. After this part of the study was completed, they also received the instructions for Part 2. An experimenter read the instructions out loud at the beginning of each part.

2.2. Experiment 2 Instructions for CEOs

2.3. Experiment 2 Instructions for Investors

2.4. Instructions for Expert Prediction Task

2.1. Experiment 1 Instructions

INTRODUCTION FOR THE STUDY

This is an experiment in decision-making. The experiment has 2 parts. Part 1 comprises 6 rounds of a game, and Part 2 comprises 10 rounds. You find the instructions for Part 1 on your desk in front of you. I will read these instructions out loud in order for all participants to have the same information. You may read along as I read the instructions aloud.

After Part 1 is completed you will receive instructions that describe Part 2. Note that what happens in Part 1 does not influence the procedures for Part 2.

In addition to a 15 CHF participation fee you will be paid any additional money you accumulate during the experiment. All payoffs during the experiment are denominated in Experimental Currency Units (ECU). At the end of the experiment, ECU will be converted to Swiss Francs at a rate **of 1 CHF per 150 ECU**. The exact amount you receive, in addition to the participation fee, will be determined during the experiment, and will depend on your decisions and on the decisions of others. You will be paid in private, in cash, at the end of the experiment.

If you have any questions during the experiment, please raise your hand and wait for an experimenter to come to you. Please do not talk, exclaim, or try to communicate with other participants during the experiment. Participants intentionally violating the rules may be asked to leave the experiment without payment.

INSTRUCTIONS FOR PART 1

At the beginning of today's study all participants are randomly assigned to a firm that you can think of as, for example, a small start-up. Each firm has 1 CEO and a staff of 5 employees. The 6 participants will remain together in the same firm for all 16 rounds of the experiment. At the onset of the study, the computer randomly allocated participants to firms, and to either the role of CEO or an employee. Your role will be displayed in the upper right corner of your screen. All participants remain in the same role throughout the 16 rounds of the experiment.

Below, we describe Part 1 of the experiment, and explain the task of the employees and the CEO in detail.

The Task

- **Employees**

In each of the 16 rounds of the experiment, the 5 employees decide how to allocate their work time. Each round can be thought of as a workweek and employees spend 40 hours per week at their firm. Each employee has to choose how to allocate the 40 hours between two projects, a safe project and a risky project.

Employees can choose to spend 0, 10, 20, 30, or 40 hours on the risky project. The remaining hours will be spent on the safe project. For example, if an employee spends 30 hours on the risky project, the remaining 10 hours will be spent on the safe project. If, instead, an employee spends 10 hours on the risky project, the remaining 30 hours will be spent on the safe project.

The employees of a firm will remain anonymous throughout the study. In other words, the actions employees take in this experiment will remain confidential.

- **CEOs**

In Part 1 the CEO of the firm observes the employees' actions, but makes no active decision.

Payoffs

In each round of the game, employees and CEOs earn a payoff. Your total payoff from today's experiment consists of the sum of what you have earned over all 16 rounds of parts 1 and 2. We will now describe, in detail, how these payoffs are determined for the 5 employees and for the CEO in each firm.

- **Employee Payoff per Round**

As an employee, you can influence your payoff, and the payoff of the other employees in your firm, through how you decide to allocate your time between the safe and the risky project.

The safe and the risky project have different payoffs.

Payoff from the safe project: You receive 200 ECU for allocating all of your time to the safe project. For each hour that you allocate to the risky project instead of the safe project, you give up 5 ECU. For example, if you decide to spend 20 hours on the risky project you give up 100 ECU. The payoff from the safe project is paid out to the employee independently of what anyone else in the firm does in that round.

Payoff from the risky project: All employees in the firm receive the same payoff from the risky project. This payoff depends on two things. Specifically, it depends on the minimum number of hours allocated to the risky project by any employee in the firm, and on the rate of return to the risky project.

1. The employee payoff from the risky project depends on the minimum number of hours allocated to the risky project by any employee in the firm. The minimum is the smallest number of hours chosen for the risky project. For example, suppose the 5 employees choose to allocate 20, 10, 40, 10 and 40 hours to the risky project. Then, 10 hours is the minimum number of hours allocated to the risky project within the firm.
2. The employee payoff from the risky project also depends on the rate of return to the risky project. This rate of return applies equally to all employees of a firm.

The rate of return can vary from round to round because of factors beyond the firms' control, like market competition. It can be either low or high. The low rate of return is 5 and the high 6. At the end of each round, the computer will randomly select a rate of return for each firm. The two possible rates of return are equally likely to be selected. Thus, in each round the probability is 1/2 that a specific rate of return is randomly selected.

Rate of Return to the risky project	
Low	5
High	6

The payoff that each employee receives in a round from the risky project is the rate of return multiplied by the minimum number of hours an employee in the firm spends on the risky project.

The employee payoffs can also be represented by the following formula:

$$\text{Employee's payoff} = 200 - \text{Hours employee spends on risky project} * 5 + \text{Minimum hours spent on risky project} * \text{Rate of return}$$

If you do not find this formula useful, don't worry about it. It is given to you as an additional way to understand the payoffs. You will see tables that describe the possible payoffs any time you have to make a choice.

The following examples illustrate how payoffs are determined in this game.

- **Example 1**

Suppose that in a round, Employee A chooses to spend 10 hours on the risky project. Suppose the other 4 employees in the firm each spend 10, 20, 30, and 40 hours on the risky project. This means that the minimum number of hours allocated to the risky project within the firm is 10 hours.

Employee A's payoff then equals: $200 - (10 \text{ hours} * 5) + (10 \text{ hours} * \text{the rate of return})$. Suppose that at the end of the round the computer randomly selects 6 as the rate of return. Employee A's payoff is then $200 - 10*5 + 10*6 = 210$.

- **Example 2**

Suppose, instead, that Employee A decides to spend 30 hours on the risky project. Again, suppose the other 4 employees spend 10, 20, 30 and 40 hours on the risky project and that the computer randomly selects 6 as the rate of return. This means that the minimum number of hours allocated to the risky project within the firm is again 10 hours.

Employee A's payoff then equals: $200 - (30 \text{ hours} * 5) + (10 \text{ hours} * \text{the rate of return})$. Since the computer randomly selects 6 as the rate of return, Employee A's payoff is then $200 - 30*5 + 10*6 = 110$.

You have the printout of the payoff table for both possible rates of return—5 or 6—on a separate sheet. The payoff tables include all the information employees will need in order to make their decisions. We will illustrate how to read these tables with examples 1 and 2 from the previous page.

Take Employee A's perspective in example 1, who chooses to spend 10 hours on the risky project. Recall that, in the example, the computer randomly selected the rate of return of 6, so look at the bottom table. To find out how much you would earn, you would first find the row in the table that corresponds to your time allocation. In this example, this is the second row from the top with the entries "10" in the column "my hours spent on the risky project" and "30" in the column "my hours spent on the safe project." Columns 1-5 indicate how your earnings would change with the actions that the other employees take. In example 1, 10 is the minimum number of hours that other employees allocate to the risky project. This corresponds to the second column. The corresponding entry in the table is 210, the payoff that we also calculated on the previous page.

Suppose, instead, that the computer randomly selected the rate of return of 5. In that case, you would look at the top table. The second row and second column in this case give a payoff of 200, which is also the payoff from the formula: $200 - (10 \text{ hours} * 5) + (10 \text{ hours} * \text{the rate of return}) = 200 - 50 + 50 = 200$.

Next, take Employee A's perspective in example 2, who chooses to spend 30 hours on the risky project. Returning to the case where the computer randomly selected the rate of return of 6, look again at the bottom table. To find out how much you would earn, you would again find the row in the table that corresponds to your time allocation. In this example, this is the fourth row from the top with the entries "30" in the column "my hours spent on the risky project" and "10" in the column "my hours spend on the safe project." The action of the other employees does not change and the second column is still the correct column at which to look. The corresponding entry in the table is 110, the payoff that we also calculated on the previous page.

Finally, suppose again that the computer instead randomly selected the rate of return of 5, which means you should look at the top table. The third row and second column in this case give a payoff of 100, which is also the payoff from the formula: $200 - (30 \text{ hours} * 5) + (10 \text{ hours} * \text{the rate of return}) = 200 - 150 + 50 = 100$.

Employees can refer to these payoff tables at any point at which they make a decision. They will be visible on the decision screen for employees, which is shown on the next page. Employees choose the number of hours they work on the risky project by entering the corresponding number, either 0, 10, 20, 30 or 40 in the box in the middle of the screen.

Decision screen for employees

Round 1 out of 2 | Your Role: Employee

Participant # 2

Below you see the tables that show your possible payoffs, depending on your decision, the decision of the other employees in your firm and the rate of return to the risky project.

To choose a number of hours you want to spend on the risky project, type in a value in the corresponding box. When you have made your final decision, click on the button labelled "Continue" to submit your answer for this round.

Currently, you do not know the choices of the other employees in your firm. But you will find out the minimum number of hours spent on the risky project immediately after this round, once everyone submits their choices.

Number of hours I allocate to the risky project.
Type in 0, 10, 20, 30 or 40:

My Hours on The Risky Project	My Hours on The Safe Project	Minimum Hours Spent by Other Employees on The Risky Project				
		0	10	20	30	40
0	40	200	200	200	200	200
10	30	150	200	200	200	200
20	20	100	150	200	200	200
30	10	50	100	150	200	200
40	0	0	50	100	150	200

rate of return=5

My Hours on The Risky Project	My Hours on The Safe Project	Minimum Hours Spent by Other Employees on The Risky Project				
		0	10	20	30	40
0	40	200	200	200	200	200
10	30	150	210	210	210	210
20	20	100	160	220	220	220
30	10	50	110	170	230	230
40	0	0	60	120	180	240

rate of return=6

The rate of return can be low (5) or high (6) and is determined randomly by the computer after you have made your decision.

Continue

- **CEO Payoff per Round**

Each round, the CEO of the firm will receive a payoff equal to the average payoff of all employees in the firm.

Feedback at the end of each round

At the end of each round, each employee will receive a summary of what happened in that round. This feedback includes

- the rate of return to the risky project,
- the number of hours that the particular participant spent on the risky project,
- the minimum number of hours spent on the risky project among the employees in the firm,
- the participant's own payoff for that round,
- the participant's own accumulated payoffs through the current round,
- the CEO's payoff for that round, and
- the CEO's accumulated payoffs through the current round.

All employees will also see a summary of this information for the preceding rounds.

The CEO will also receive a summary of what happened in each round, including

- the rate of return to the risky project,
- the minimum number of hours spent on the risky project within the firm,
- the CEO's payoff for that round, and
- the CEO's accumulated payoffs through the current round.

The CEO will also see a summary of this information for the preceding rounds.

Before you make any choices, we would like you to answer some control questions. They test whether you understand the procedures of the experiment. The computer will guide you through the control questions.

If you have any questions please raise your hand and wait for an experimenter to come to you.

Once everyone has completed the control questions, Part 1 of the study will begin.

INSTRUCTIONS FOR PART 2

We will now proceed with the second part of the experiment (Rounds 7-16). Part 2 differs from Part 1 in two ways:

1. First, the CEO in each firm now has an active role. Consequently, the way the CEO's payoffs are determined for each round is different than in Part 1.
2. Second, the rates of return to the risky project are higher. Otherwise, the way in which employees' payoffs are determined does not change.

Employees' Task

The employees' task does not change from Part 1 to Part 2. There are again 5 employees in each firm. Each employee will again allocate 40 hours between a risky project and a safe project and will receive a payoff from the risky project based on the minimum number of hours any employee in the firm allocates to the risky project.

CEO's Task

In Part 2, the firm CEO will have an active role. In each round, the CEO will send a written message to the 5 employees in the firm. All 5 employees in a firm will read the CEO's message before deciding how to allocate their time between the risky project and the safe project. The message will be sent through a message box on the screen that will be available for 90 seconds at the onset of each round. During these 90 seconds the CEO will draft a message to the employees in the firm. The CEO will be able to view the message before sending it. Once the CEO sends the message, the CEO and the employees are advanced to the next stage of the game. At this stage, employees will see the message of their CEO and decide how to allocate their time.

Except for the following restrictions, CEOs can type whatever they want in the message:

Restrictions on Messages

1. The message sent to employees in a round must contain at least 15 characters.
2. Please write in English.
3. Please do not send any personal information (for example, writing about your age or field of study).
4. Please refrain from using obscene or offensive language.

In some firms, the CEO's portrait that was taken at the beginning of the experiment will be presented to the employees together with the CEO's message. The computer randomly determines whether or not the portrait is shown to the firm's employees in Part 2. If it is shown, it will appear in all 10 rounds of Part 2 and will be shown to all of the firm's employees. The CEOs will not know whether their portrait is attached to the message. However, all employees will know whether or not they and other employees see the CEO's portrait. The CEOs will never see the portraits of the employees in their firm, whether their portrait is shown to the employees or not.

Payoffs

The total payoff that will be paid out at the end of today's experiment is the payoff you accumulated in rounds 1-6 plus the payoff you will accumulate in rounds 7-16.

Employees' Payoffs per Round

The way in which payoffs are calculated for employees remains the same in Part 2 as in Part 1. However, the rate of return to the risky project has increased. The rate of return now has two new possible values: a low return of 8 and a high return of 10. Again, the computer will randomly select one rate of return at the end of each round. The probability that a specific rate of return is selected is 1/2.

Rate of Return to the risky project	
Low	8
High	10

Again, you have a printout of the payoff table for both possible rates of return—8 or 10 — on a separate sheet. The payoff tables include all the information employees will need in order to make their decisions.

Let's revisit the two examples from Part 1 to see how the new rates of return matter for employees' payoffs in each round of Part 2:

- **Example 1**

In this example Employee A spends 10 hours on the risky project and the other 4 employees each spend 10, 20, 30, and 40 hours on the risky project. This means that the minimum number of hours allocated to the risky project within the firm is 10 hours.

Employee A's payoff then equals: $200 - (10 \text{ hours} * 5) + (10 \text{ hours} * \text{the rate of return})$. Suppose that at the end of the round the computer randomly selects 10 as the rate of return. Employee A's payoff is then $200 - 10*5 + 10*10 = 250$.

- **Example 2**

Suppose, instead, that Employee A decides to spend 30 hours on the risky project. Again, suppose the other 4 employees spend 10, 20, 30 and 40 hours on the risky project and that the computer again randomly selects 10 as the rate of return. This means that the minimum number of hours allocated to the risky project within the firm is again 10 hours.

Employee A's payoff then equals: $200 - (30 \text{ hours} * 5) + (10 \text{ hours} * \text{the rate of return})$. Since the computer randomly selects 10 as the rate of return, Employee A's payoff is then $200 - 30*5 + 10*10 = 150$.

CEO's Payoff per Round

The CEO will have an active role in Part 2 of the experiment, which is also reflected in the CEO's payoffs. In rounds 7-16, the CEO's payoff for each round will depend partly on the actions of the employees. Specifically, the CEO's payoff has a fixed and a variable component. The CEO's payoff primarily depends on the variable component.

- **Fixed component**

In each round the CEO receives a fixed payment of 150 ECU. The CEO receives this for typing a message in that round.

- **Variable component**

The variable component depends on 1) the minimum number of hours that the employees in the firm allocate to the risky project and 2) the rate of return to the risky project.

Recall that the rate of return is equally likely to be either 8 or 10, and is determined randomly by the computer.

The CEO's payoffs can be represented by the following formula:

$$\text{CEO's payoff} = 150 + \text{Rate of return} * \text{Minimum hours spent on risky project}$$

If you do not find this formula useful, don't worry about it. It is given to you as an additional way to understand the payoffs. You will see tables that describe the possible payoffs any time you have to make a choice.

You have the CEO payoff table on a separate sheet. This table shows the CEO's payoffs for every possible value of the minimum number of hours spent on the risky project and for both rates of return, 8 and 10.

Let's look again at some examples to see how the CEO's payoffs are determined in Part 2.

- **Example 1**

Suppose that in a round, the 5 employees spend 10, 20, 30, 30 and 40 hours on the risky project, so that 10 hours are the minimum number of hours allocated to the risky project. The CEO's payoff then equals: $150 + (10 \text{ hours} * \text{the rate of return})$. Suppose that at the end of the round the computer randomly selects 10 as the rate of return. The CEO's payoff is then $150 + 10 * 10 = 250$.

- **Example 2**

Suppose, instead, that in a round, the 5 employees spend 30, 30, 40, 40 and 40 hours on the risky project, so that 30 hours are the minimum number of hours allocated to the risky project. The CEO's payoff now equals: $150 + (30 \text{ hours} * \text{the rate of return})$. Again, suppose that at the end of the round the computer randomly selects 10 as the rate of return. The CEO's payoff is then $150 + 30 * 10 = 450$.

Feedback at the end of each round

At the end of every round in Part 2, the employees and the CEO will receive the same detailed feedback as in Part 1 about what happened in the latest round and preceding rounds.

Before we begin Part 2 of the experiment, everyone will be asked some additional control questions. This is to ensure that all of you understand the role that CEOs have in Part 2 and their payoffs. Once everyone answers all the questions correctly, round 7 of the game will start immediately with the screen on which CEOs can enter the message to their employees.

Appendix D – Instructions Experiment 2

The following pages reproduce the instructions as they were given to the study participants who participated as CEOs or as investors.

2.2. Experiment 2 Instructions for CEOs

INSTRUCTIONS

This booklet contains the instructions for today's study. Please start by reading the complete instructions in order to understand the study. Once you have read the instructions, you will first answer a few questions on the screen to make sure that you understood the instructions, before the study starts.

Portraits

During the session, we will call each of you individually, one at a time, to have your portrait taken. When it is your turn, the experimenter will call your participant number that is written on the number card that you have received. When your number is called, please exit this room and go to the directed area, where a photographer will take your portrait. When your portrait was taken, please return to this room immediately and inform the experimenter that you are back so that the experimenter can call the next person to step outside this room in order to have the portrait taken.

To save time, please be prepared to go outside directly once your participant number is called. Please remove any hats and coats and leave them in this room. After your portrait is taken, you will return to this room to complete the study.

Introduction to the study

This is a study on decision-making. You will be paid a 15 CHF participation fee, in cash, at the conclusion of today's session.

You may also accumulate additional money based on your actions and the actions of other participants in the study. During the study, as explained in more detail below, you will interact with participants who take part in different sessions that will occur in the coming weeks. Your final payoff will not be known until later, after all participants have taken part in the experiment. Your payment for this part of the study will be mailed to you at the end of the experiment, after the last session. For this purpose, you will receive an envelope at the end of today's session that you should complete with the address at which you would like to receive your payment.

If you have any questions during the study, please raise your hand and wait for an experimenter to come to you. Please do not talk, exclaim, or try to communicate with other participants during the study. Participants intentionally violating the rules may be asked to leave the study without payment.

Overview of the study

In this study, participants are assigned either to the role of a *CEO*, or to the role of an *investor*. All participants in this session have been assigned the role of a CEO, and you will keep this role throughout the study. Participants in the role of investors will participate in later sessions, to be conducted in the coming weeks.

You can think of your role as being the CEO of a small start-up firm. As the CEO, your task is to attract as many investors as possible to your company. By attracting investors to your firm, rather than these investors investing in competing firms, you can earn more money. Investors care about your ability to attract other investors and to select products that can be successfully developed and marketed.

Your main tasks today will be to write a message to attract investors, and to select products that your firm will develop. We will describe below in detail how you attract investors and select products. Investors will want to invest in your firm if they believe that you will also attract other investors and that you will make good product choices.

Investors choosing firms

Today's session consists only of CEOs. Investors will take part in future sessions.

Specifically, in future sessions, investors will play several rounds of a game, in which they have to choose between competing firms. Your main task in this study is to attract investors so that they choose your firm.

In each round, investors face a simple choice: choose to invest in either your firm or a competing firm. The investors earn money if they both choose to invest in the same firm; otherwise they earn nothing. The game between the two investors can thus be described by the following table:

		<i>Investor B selects . . .</i>	
		<i>Your firm</i>	<i>Competing firm</i>
<i>Investor A selects . . .</i>	<i>Your firm</i>	Both investors earn money; you earn money	Both investors earn nothing; you earn nothing
	<i>Competing firm</i>	Both investors earn nothing; you earn nothing	Both investors earn money; you earn nothing

In each round of the study, the two investors each choose one of the two firms independently and simultaneously. This means that when an investor decides in which firm to invest, this investor does not observe the choice that the other investor is making at the same time. Investors have up to 90 seconds to decide in each round.

You earn money only when both investors select your firm, otherwise you earn nothing. If both investors select the competing firm, then the CEO of the competing firm earns money. Later, we will describe the exact payoff you receive in case two investors select your firm in a round.

Investors earn money if they both select the same firm, and they earn zero otherwise. The exact amount they earn when they both pick the same firm will depend on whether the products selected by that firm's CEO are successful. Below, we will describe in detail how these payoffs are determined.

In each round, new groups of two investors and two CEOs will be formed at random. You will only be paired with the same CEO of a competing firm, or with the same investors, once. After each round, a new group of two CEOs and two investors will be formed so that you will never interact with any of the same other participants twice. No investor will be informed about any outcomes, or the choices of any other investors, until the end of their session. Note that this means that each of the rounds is independent, and what happens in one round does not influence what happens in any other round.

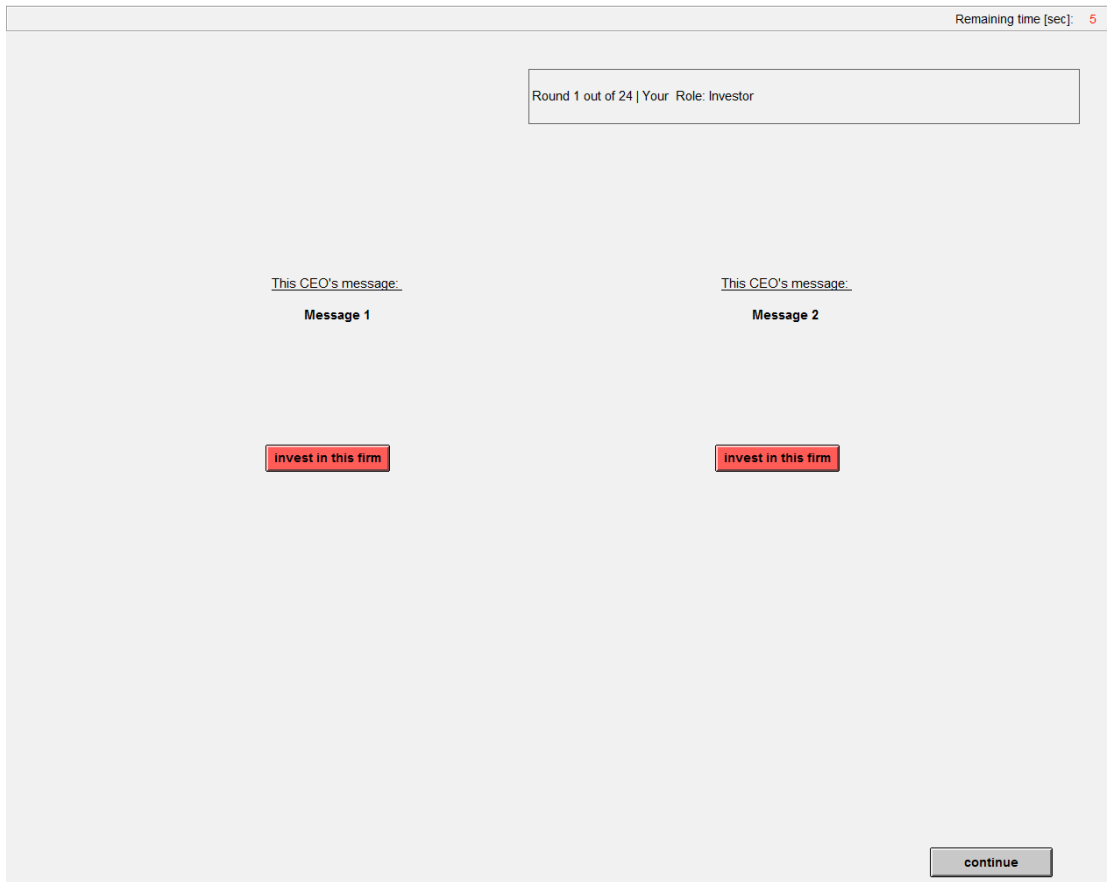
You will not find out about any choices that other CEOs make today, nor will any other CEOs find out about your choices.

Messages from CEOs

In order to convince investors to select your firm, you and the CEO of the competing firm will each write a message that investors can see while they are making their choices. Thus, your main task in today's study will be to write a message that you believe will convince the two investors to both select your firm.

In the later sessions, when investors are making choices, the two investors who are paired with you in a round will see your message, and the message from the CEO of the competing firm. The two messages will be displayed as in the following example:

Figure 1 Example of Message Display in Investors' Decision Screen



Investors will select one of the two firms by clicking next to the message from the corresponding CEO. The order in which the CEOs messages appear will be random for each investor, meaning that the message one investor sees on the left side of the screen may appear either at the left or the right side of the other investor's screen. That is, investors do not know whether the other investor also sees the two messages in the same order, or in the opposite order.

In some rounds, investors will also see the portraits of the two CEOs along with the CEOs' messages. Investors will either see the portraits of both CEOs or of none. The computer randomly determines whether or not the portraits are shown to the investors in a round. However, if the portraits are shown, they are always presented together, and always to both investors. The CEOs' messages will be the same, regardless of whether or not the portraits are shown. Neither you nor any other CEOs will see the portraits of the other CEOs.

Your tasks as the CEO today

During today's session you have two tasks as a CEO: writing a message and selecting products.

Writing a message

All CEOs will write a message to the investors. As explained above, in each round, the investors will read the messages from two CEOs before deciding in which of the two firms to invest. The message is therefore a possibility for you to motivate why the two investors in a round should both choose your firm.

In the remainder of today's session, you will draft a message to the investors through a text box that you will see on your screen once the study starts. In total, you have up to 40 minutes to finalize your message. Your message should convey to investors why they should pick your firm. You will be able to review the message before submitting it.

Except for the following restrictions, CEOs can type whatever they want in the message:

5. The message sent to the investors must contain between 60 characters (around 10 words) and 700 characters (around 100 words).
6. Do not use line breaks in your message since they will not be displayed to investors.
7. Try to avoid using special characters (e.g., "ä", "&", "@") since your message may not display properly.
8. Please write in English.
9. Please do not send any personal identifying information (for example, writing your name or age).
10. Please refrain from using obscene or offensive language.

Selecting products

At the end of today's session, after writing your message, you will select 3 out of 6 possible products that your firm will develop and sell. To select products you will see the names of 6 different possible products on your screen. You will select products by clicking on their names. Note that you will be asked to select exactly three products, not more or less.

Before the participation of the investors, the computer will randomly draw 1 of the 6 products to be the successful product for this study. Each of the 6 products thus has an equal chance of being successful. Investors earn more money by picking the same firm, but they earn even more money by jointly picking a firm whose CEO selected a successful product.

Note that, at the time they make their investment choices, investors will not know the specific product choices by either of the CEOs.

Payoffs for investors

Investors will receive a participation fee of CHF 15 for participating in the experiment. Even though investors will play many rounds of the game, each investor will only be paid additional earnings based on the outcome in one randomly chosen round of the game.

Specifically, investors' payoffs in the selected round will be determined as follows:

- Investors receive 0 CHF (in addition to the CHF 15 participation fee) if they do not both pick the same firm in the selected round.
- Investors receive CHF 15 (in addition to the CHF 15 participation fee) if they pick the same firm and that firm's CEO does not select the successful product.
- Investors receive CHF 25 (in addition to the CHF 15 participation fee) if they pick the same firm and that firm's CEO selects the successful product.

That means that by selecting the successful product and attracting both investors to choose your firm, you generate a payoff of 25 CHF for each of the two investors.

Payoffs for CEOs

Unlike investors, CEOs can earn money for every round in which their message is shown to investors. Your message will be used in a total of at least 24 rounds, but possibly more. In each of these rounds, you will be paired with a different competing firm, and different investors. You may earn money in each of these rounds, if you convince both investors to choose your firm.

The only thing that matters for your payoff in a round is whether or not both investors select your firm in that round. Specifically, your payoffs across all rounds will be determined as follows:

- If both investors select your firm in a round, you will earn a payoff of 2 CHF for that round (in addition to your CHF 15 participation fee and your earnings in all other rounds)
- Otherwise, you will receive 0 CHF for that round.

The final payoff for every CEO is the sum of these payments across all rounds of the study.

As we mentioned earlier, during the coming weeks we will invite participants who will perform the role of investors in future laboratory sessions. These investors will play several rounds of the investment game and in at least 24 of these rounds your firm will be one of the two competing firms. At the end of the study, we will calculate the total payoff that you have received across all of the rounds in which your firm was one of the two choices, across all of the sessions of the experiment. This money will be mailed to you by post.

Your show up fee of 15 CHF will be paid out today, at the end of the session.

Feedback

No feedback about the outcomes of the investor's choices or the CEOs product choices will be given to participants until the end of their participation in this study, when participants receive their payment. That means that neither the CEOs, nor the investors, will know anything about the outcomes of specific rounds before their participation in the study is over.

Start of the study

Before you make any choices, we would like you to answer some control questions. These questions test whether you understand the procedures described in these instructions.

The computer will guide you through the control questions. Once you have completed these questions, you will see a text box into which you can write your message. You will have up to 40 minutes to write a message. During this time, you will also have your portrait taken, in case it has not been taken, yet. When it is your turn to have your portrait taken, the experimenter will call your participant number. It is important that you return to this room immediately after your portrait was taken. Don not forget to inform the experimenter that you are back when you return to this room after your portrait was taken.

At the end of the study, you will complete a short questionnaire and will then receive your participation fee.

If you have any questions now or later in the study please raise your hand and wait for an experimenter to come to you.

Please click the “continue” button to start the control questions.

2.3 Experiment 2 Instructions for Investors

INSTRUCTIONS

Welcome to today's study. You find the instructions for today's study on the desk in front of you. The instructions will be read aloud in order for all participants to have the same information. You may read along as you listen to the instructions. Once you have listened to the full instructions, you will first answer a few questions on the screen to make sure that you understood the instructions, before the study starts.

Introduction to the study

This is a study on decision-making. You will be paid a 15 CHF participation fee, in cash, at the conclusion of today's session.

You may also accumulate additional money based on your actions and the actions of other participants in the study. During the study, as explained in more detail below, you will interact both with participants who are here in this session, as well as with participants who took part in different sessions that occurred in the previous weeks.

If you have any questions during the study, please raise your hand and wait for an experimenter to come to you. Please do not talk, exclaim, or try to communicate with other participants during the experiment. Participants intentionally violating the rules may be asked to leave the study without payment.

Overview of the study

In this study, participants are assigned either to the role of an *Investor*, or to the role of a *CEO*. All participants in this session have been assigned the role of an Investor, and you will keep this role throughout the study. The role of CEO is performed by participants who already took part in previous sessions. These participants were paid a fixed payment for their participation, but may also receive additional money based on the choices made by you, as Investors, in today's session.

As an Investor, your task is to decide between two competing firms in which you can invest. Successful firms are those who attract the investment of as many investors as possible, and whose CEOs make good product choices. By selecting successful firms, you can earn more money. Below we describe in detail how you select firms in which to invest, and how this determines your earnings from the experiment.

Your task as an investor

During today's session, you will participate in several rounds of an activity in which you will be paired with different investors. In each round, the computer will randomly pair you with another investor. You will not know with which other investor you are paired in any round. You will also not know the outcomes of any rounds until the end of the experiment.

In each round, the computer will also pair you and the other investor with two competing firms. Each firm corresponds to one of the CEOs who participated in a previous session of the experiment. In each round, you will see two new competing firms, and you will never see the same firm more than once.

The main task for you as an investor is to choose one of the competing firms in each round in which to invest. You earn money if both you and the other investor with whom you are paired in that round choose to invest in the same firm, otherwise you earn nothing. The game between you and the other investor can thus be described by the following table:

		<i>The other investor selects . . .</i>	
		<i>Firm A</i>	<i>Firm B</i>
<i>You select . . .</i>	<i>Firm A</i>	Both investors earn the same amount of money	Both investors earn nothing
	<i>Firm B</i>	Both investors earn nothing	Both investors earn the same amount of money

In each round of the study, you and the other investor each choose one of the two firms independently and simultaneously. This means that when you decide in which firm to invest, you do not observe the choice that the other investor is making at the same time. You will have up to 60 seconds to decide in each round.

On the decision screen, you and the other investor will see the two firms presented in a random order. For instance, in the above example, the computer will randomly select whether you see “Firm A” on the left side of the screen and “Firm B” on the right side or vice versa. The computer will also randomly select each firm’s position on the screen for the other investor, independently of what is selected for you. That is, what you see presented as “Firm A” may appear as “Firm B” for the other investor. Therefore, using the position of the firm on your screen or whether it appears first or second on your screen will not help you in matching the choice of the other investor.

You earn money only when both you and the other investor select the same firm. If you select different firms you earn nothing. Both you and the other investor will receive the same earnings in a round. The exact amount that you and the other investor can earn if you both select the same firm will depend on whether the products selected by that firm’s CEO are successful. We describe below how these payoffs are determined.

The role of CEOs

Today's session consists only of investors. CEOs have already participated in previous sessions.

The main task of the CEOs in this study is to attract investors to the CEO's firm. Specifically, in previous sessions, each CEO was asked to write a message to the investors. As an investor, you will read the messages from the CEOs of the two competing firms before deciding in which firm to invest. The message is therefore a possibility for each CEO to motivate why the investors should choose that CEO's firm.

At the end of their session, CEOs were also asked to make product choices. This will be explained in more detail below.

Messages from CEOs

When you see two competing firms in a round, you will also see a message written by each CEO attempting to convince you to invest in that CEO's firm. The messages of the competing firms will be displayed as in the following example:

The screenshot shows a web interface for an investor. At the top, there is a header bar with three sections: "ROUND" (partially visible), "1 out of 1", "Your role: investor", and "Time remaining: 71". Below the header, a instruction reads: "Please choose one of the two firms. Remember that you only earn money in a round if you select the same firm as the other investor with whom you are paired." The main content area is divided into two columns. Each column has a heading "This CEO's message:" above a large rectangular box. The left box is labeled "CEO of Firm A's message" and the right box is labeled "CEO of Firm B's message". Below each box is a red button with the text "invest in this firm".

You will select one of the two firms by clicking the button below the message of the corresponding CEO. The order in which the CEOs messages appear will be random for you and for the other investor, meaning that the message one investor sees on the left side of the screen may appear either at the left or the right side of the other investor's screen. That is, you do not know whether the other investor also sees the two messages in the same order, or in the opposite order.

In some rounds, you will also see the portraits of the two CEOs along with the CEOs' messages. These portraits were taken during the previous sessions in which CEOs participated. The computer randomly determines whether or not the portraits are shown to the investors in a round. If the portraits are shown, they are always presented together, and always to both investors. That is, if you see the portraits in a round, then it is the portraits of the CEOs who wrote the specific messages that you see in that round, and the other investor with who you are paired in that round also sees the same portraits. The message from a particular CEO will be the same, regardless of whether or not that CEO's portrait is shown in a round.

Selecting products

CEOs have also selected 3 out of 6 possible products that their firm should develop and sell. To select products, the names of 6 products were shown on the CEOs' screens, and each CEO chose their preferred 3 products by clicking buttons next to each of these products. Note that CEOs made the product choices at the end of their session, after they had written their messages to investors.

After the sessions in which CEOs made their choices, the computer randomly drew 1 of the 6 products to be the successful product for this study. Each of the 6 products thus has an equal chance of being successful. As an investor, you earn more money by picking the same firm as the other investor, but you earn even more money by jointly picking a firm whose CEO selected a successful product. Note, however, that you will not know which CEOs selected successful products at the time you and the other investor make your choice in a round.

Payoffs for investors

Investors will receive a participation fee of CHF 15 for participating in the experiment. To determine your payoff from the interactions you have during today's session, the computer will randomly select one round. Your additional payoff will be based on the outcome of your decision, and the decisions of others, only in the randomly selected round. Since you will not know which round this will be, you should treat each round as if it could be the one that determines your earnings.

Specifically, your payoffs in the selected round will be determined as follows:

- Investors each receive 0 CHF (in addition to the CHF 15 participation fee) if they do not both pick the same firm in the selected round.
- Investors each receive CHF 15 (in addition to the CHF 15 participation fee) if they pick the same firm and that firm's CEO does not select the successful product.
- Investors each receive CHF 25 (in addition to the CHF 15 participation fee) if they pick the same firm and that firm's CEO selects the successful product.

That means that by investing in the same firm, and selecting a firm with a successful product choice, you may generate a payoff of up to 25 CHF in a round.

Payoffs for CEOs

Unlike investors, CEOs can earn money for every round in which their message is shown to investors. The message of each CEO will be used in at least 24 rounds. In each of these rounds, CEOs will be paired with a different competing firm, and with different investors. CEOs may earn money in each of these rounds, if they convince both investors to choose their firm.

The only thing that matters for the CEO's payoff in a round is whether or not both investors select the CEO's firm in that round. Specifically, the CEO's payoffs across all rounds will be determined as follows:

- If both investors select the CEO's firm in a round, the CEO will earn a payoff of 2 CHF for that round.
- Otherwise, the CEO will receive 0 CHF for that round.

The final payoff for every CEO is the sum of these payments across all rounds of the study, plus the CHF 15 participation fee. CEOs will receive their additional payments once all of the sessions in this experiment are completed.

Feedback

No feedback about the outcomes of the investor's choices or the CEOs product choices will be given to participants until the end of the experiment, when participants receive their payment. That means that neither the CEOs, nor the investors, will know anything about the outcomes of specific rounds before their participation in the study is over.

Start of the experiment

Before you make any choices, we would like you to answer some control questions. These questions test whether you understand the procedures described in these instructions. The computer will guide you through the control questions. Once you have completed these questions, the first round of the study will start. In each round, you will choose one of the two competing firms. At the end of the study, you will complete a few short tasks and will then receive your participation fee.

If you have any questions please raise your hand and wait for an experimenter to come to you.

Once everyone has completed the control questions, the study will begin. Please click the "Continue" button to start the control questions.

2.4 Experiment 2 - Instructions for Expert Prediction Task

Prediction task (Please write your name for payment: _____)

Below is a description of an experiment conducted in Zurich, Switzerland, in September and October 2018. The experiment studies how players in a pure-matching coordination game respond to competing requests to play particular equilibria, when the requests come from men vs. women. Please read the description of the experimental task. Afterwards, **please enter two guesses**. For each guess, we will select the person whose guess is **closest in absolute value to the actual percentage**. Each of these people will receive 50 Euro.

The experiment:

Participants were recruited from the subject populations of the University of Zurich and the Swiss Federal Institute of Technology (ETH). The main experimental task consisted of two randomly-paired “**Investors**” playing a pure-matching coordination game. **Each Investor chose between two “Firms” and their “CEOs”** and received a payoff in a round only if both Investors selected the same firm. Specifically, **the two investors received CHF 15 if they both chose the same Firm/CEO and CHF 0 otherwise**. (Investors who coordinated could also receive an additional CHF 10 if the CEO they picked had correctly guessed a random number). Each Investor played a total of 24 rounds, in which they saw entirely different Firms/CEOs. Investors were paid for one randomly-selected round and received no feedback until the end of the experiment.

When making their decisions in a round, **Investors observed a message from each firm’s CEO** stating why investors should select that CEO’s firm.⁴ Specifically, Investors saw a screen like the one below on which they could read the messages written by the two CEOs and then make their choices.⁵

⁴ The CEOs participated in an earlier session in which each CEO had his/her portrait taken and had 40 minutes to write a statement recommending that investors select his/her firm. CEOs subsequently received CHF 2 for every one of the 24 rounds in which both investors selected that CEO’s Firm.

⁵ We randomized the presentation order of the two Firms within an Investor pair, so order could not be used to coordinate.

ROUND 1 out of 1 Your role: investor Time remaining: 71

Please choose one of the two firms. Remember that you only earn money in a round if you select the same firm as the other investor with whom you are paired.

This CEO's message: This CEO's message:

CEO of Firm A's message CEO of Firm B's message

invest in this firm invest in this firm

In one-half of the rounds, Investors also saw the portraits of the two CEOs, presented alongside the messages above. These portraits were taken by an experienced photographer against a neutral background.

Your guesses:

We are interested in cases in which one CEO was male and the other female. Specifically, in what percentage of such cases:

Did individual investors **pick the male CEO when portraits were not visible?** ___ %

Did individual investors **pick the male CEO when portraits were visible?** ___ %