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It's not about the money - Or is it? Stereotypes and the gender application gap

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Paula Scholz

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**UNIVERSITÄT
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It's Not About the Money – Or Is It?

Stereotypes and the Gender Application Gap*

Paula Scholz**

March 26, 2025

Abstract

This study investigates how salary differences, gender stereotypes and prior leadership experience influence the willingness to pursue leadership roles. Using a controlled laboratory experiment, I focus on communication and coordination responsibilities of leaders. In the experiment, subjects are randomly assigned to leadership positions in a public goods game in which the leader communicates with and coordinates the team. Afterwards, I elicit the willingness to pay to become the leader varying whether the position comes with a low or high salary. I find that women have a substantially lower willingness to pay to attain the leadership position compared to men if and only if it comes with a high salary. Despite women being equally effective team leaders as men, belief elicitation shows that high salaries shift leadership roles from being perceived as stereotypical female to stereotypical male. This stereotypical perception of associating a highly paid leader with men translates into subjects' willingness to pay to attain the position. Exogenous exposure to leadership roles does not reduce the gender application gap, suggesting that experience alone cannot overcome instilled stereotypes.

Keywords: Gender, Leadership, Stereotypes, Behavioral Decision Making

JEL Codes: C91, D83, J16, M21, M51

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1 Introduction

The representation of women in the labor market has increased substantially over the past decades, accompanied by a narrowing gender earnings gap (Goldin, 2014). However, gender disparities persist, especially in leadership roles. In 2024, only 34% of directors in Standard & Poor’s (S&P) 500 firms were women (SpencerStuart, 2024).¹ While this inequality is most striking at the top, such gender disparities are also prevalent earlier in the career pipeline (McKinsey and LeanIn.Org, 2024; Azmat et al., 2024; Benson et al., 2024; Haegele, 2024; Bircan et al., 2024). Known as the ‘broken rung’, this phenomenon describes the sharp drop in the share of female employees advancing from entry-level roles to first-level managerial positions. With a reversed gender education gap (Blau and Kahn, 2017), losing talented female workers early in their careers is inefficient because it reduces the size of talent pools available for promotions² and reinforces gender disparities in top positions.

A crucial driver of this broken rung is a gender gap in applications (Haegele, 2024; Fluchtmann et al., 2024). Different potential drivers of this application gap have been discussed in the literature. Salary expectations and career incentives influence application behavior differently by gender: women on average are more likely to take on low-promotability tasks which are not helpful for career advancement (Babcock et al., 2017), are less frequently assigned leadership roles (“high-promotability tasks”) early in their careers (Bircan et al., 2024), and receive lower financial rewards for similar performance (Barker and Gil, 2023). Given that women tend to have lower self-confidence than men in professional settings (Exley and Kessler, 2022; Coffman et al., 2024b), they may be particularly hesitant to apply for leadership roles without prior experience. Additionally, the persistent stereotype that successful leaders are male (Badura et al., 2018; Koenig et al., 2011) may further contribute to the application gap.

The key question I address in this paper is whether a mere shift in salary differences can affect the willingness to pay to attain a leadership position and trigger different gender stereotypes. Moreover, I test whether exogenous exposure to leadership experience can mitigate these effects.

I study these aspects in a lab experiment. The laboratory environment allows to i) isolate the effects of different salaries on application behavior while holding all other task dimensions fixed and ii) circumvent the self-selection problem when studying experience effects. In the experiment, I exogenously vary (i) whether a leadership role comes with a small or large salary increase and (ii) whether subjects have leadership experience at the application stage. The three-stage experiment is structured as follows: In Stage 1, participants are assigned to groups of three and play a standard public goods game. One participant in each group is randomly assigned as the team leader whose key task is to communicate with and coordinate the team. Before subjects decide about their contribution levels, the team leaders can communicate with their team members in bilateral chat rooms. Team members can thus only chat with the team leader but not with the other team

¹Also in the EU, the share of women in corporate boards was 34% on average in 2024 (European Commission, 2025).

²Maximizing the pool of qualified employees for leadership positions is crucial because already lower-level managers significantly impact subordinates’ productivity (Lazear et al., 2015; Fenizia, 2022).

member, which makes the team leader the crucial player to communicate and coordinate the entire team. Leadership responsibilities in this stage are not remunerated. In the second stage, I elicit subjects' willingness to pay to attain a leadership role in Stage 3 using a second-price auction. Importantly, this leadership position comes with a large (50%) or small (10%) salary increase.³ By exploiting the random assignment of leadership roles in Stage 1, I thus also can analyze the causal effect of leadership experience on the willingness to pay to attain a leadership position by gender.

I find that women have an 11% lower willingness to pay to attain leadership positions compared to men when this position comes with a high salary. Interestingly, this gender gap is not observed for low-salary positions. Standard explanations such as differences in confidence, risk aversion, or leadership ability do not fully account for these findings. On the contrary, the data on team members' contributions rather suggest that women are at least as good as male leaders in my setting. In contrast to prior expectations, I do not see that the gender application gap for the high salary role is reduced by experience as the exogenous exposure to the leadership role in Stage 1 does not eliminate or reduce the gender gap in the willingness to pay for the leadership position. Unlike in Coffman et al. (2024a, 2023), I thus do not detect any gender difference in the reactions to different experience when being a leader.

I furthermore find that the mere shift in salaries changes the perception of leadership roles from stereotypical female to male stereotyped. Related to this mechanism, I also find a gender gap in a survey-based measure for the willingness to claim the lead (Giessner et al., 2022). That is, women express a lower general willingness to actively pursue leadership roles. Importantly, this willingness to claim the lead is more strongly associated with the willingness to attain high salary leadership positions than low salary leadership positions.

This study contributes to several strands of the literature. First, my study adds to the literature on leadership stereotypes (e.g., Badura et al., 2018; Koenig et al., 2011) by showing that the stereotype of male leaders is induced by a mere rise in salary in my setting. At the same time, I find a gender gap in application aspirations for high salary positions only. Coffman et al. (2024b) showed that women are less likely to apply for higher return but more challenging work in a male-typed domain. In my experiment, women exhibit a lower willingness to pay compared to men for assuming a leadership position *although* the leadership responsibility, task complexity, and other task dimensions remain the same. The only difference is the increase in salary, making it even more important to counteract the instilled stereotypes.

Second, I contribute to the literature on leadership training (Day, 2000; Martin et al., 2021) and the role of experience (e.g. Haegele, 2024; Bircan et al., 2024) by showing that exogenous exposure to leadership roles may have only limited effects on future application behavior. In my setting, prior experience with being a leader did not reduce the gender gap in the willingness to invest to attain leadership positions.

Third, my study departs from the traditional 'leading by example' framework often employed in

³The low salary adds 10% while the high salary adds 50% to the fixed endowment as a risk-free earning in Stage 3. Leaders cannot use this additional salary as a contribution in the public good game. By using the strategy method, subjects indicate their willingness to pay for both positions.

experiments, where leaders act primarily as first movers in public goods settings (e.g. Gächter et al., 2012; Güth et al., 2007; Arbak and Villeval, 2013; Gächter and Renner, 2018; Cappelen et al., 2016). Instead, I focus on the communication aspect of leadership and its role for the gender representation and application gap.⁴ Communication is a crucial part of leadership because effective leaders spend much of their time building trust and proactively engaging with team members (McKinsey and LeanIn.Org, 2023), with CEOs dedicating approximately 70% of their time to interpersonal interactions (Bandiera et al., 2020).

My study further relates and adds to the extensive literature on other drivers of the gender representation gaps, including for example gender biases in the hiring process (Carlsson and Eriksson, 2019; Bohnet et al., 2016), inflexible working times or missing part-time opportunities (Goldin, 2014), lower self-promotion of skills by women (Exley and Kessler, 2022; Mancuso Tradenta et al., 2024), the lower willingness of women to enter competitive environments and their lower self-confidence compared to men (Niederle and Vesterlund, 2007; Niederle et al., 2013; Datta Gupta et al., 2013; Buser et al., 2021, 2022; Saccardo et al., 2018) as well as lower social confidence, i.e. the willingness to publicly perform a task (Alan et al., 2020). The controlled environment provides the opportunity to rule out that the effects of salary-driven changes in stereotypes on the willingness to become a leader are induced by these other common aspects presented in the literature.

The remaining of this paper proceeds as follows. Section 2 introduces the experimental design and procedure. After presenting the main results in Section 3, mechanisms are discussed in Section 4. Section 5 concludes.

2 Experimental Design and Procedure

The structure of the experiment can be divided into three main stages. In the first stage, subjects are stratified by gender and assigned to the leader position or team member position. Each group hence consists of one team leader and two team members. In these groups of three, subjects play a standard public good game (PGG). The marginal per capita return is 0.5. Subjects are endowed with 3.50€. This yields the following payoff function:

$$x_i = 3.5 - c_i + 0.5 \cdot \sum_{k=1}^3 c_k \quad (1)$$

with c_i being player i 's contribution to the public good. Thus, subjects are confronted with a social dilemma situation: it is individually optimal to contribute nothing, i.e. to free-ride, because this will maximize the individual's payoff whereas it is socially optimal to contribute the entire endowment as this behavior maximizes the team's overall payoff. The PGG is adapted to the context of interest by adding a communication tool, i.e., a free-form chat that one player in the role of a leader can use to persuade others to contribute to the public good. The leaders can

⁴Eisenkopf (2014) investigates the impact of managers with communication power on competitive behavior of a group. Weber et al. (2001) and Antonakis et al. (2022) study the effect of leaders' speeches on a group's behavior.

chat with *both* team members *simultaneously* in two *separate* chat rooms for three minutes before all subjects decide about their contribution levels. The team members can only chat with the team leader but not with the other team member of their group. This approach is similar to the experiment of Eisenkopf (2014) in which managers are also characterized by communication power. The leader is thus the crucial player to achieve coordination and communication in the entire team. During the chat, team leaders have the possibility to persuade their team members to contribute their endowment. In this context, the leaders have an incentive to persuade the team members to contribute much to the public good - independent of their own action. Subjects are not allowed to reveal their identity or gender when chatting. The chats close after three minutes and subjects make their contribution decision simultaneously.

After the contribution decisions, subjects receive noisy information on the groups' overall contribution level adjusted by a randomly chosen integer between -2 and 2. Adding this noise term n , exogenously varies whether conditional on performance, i.e. the contribution level of the team members, leaders have made a positive ($n = \{0, 1, 2\}$) or negative ($n = \{-1, -2\}$) experience. These signals are capped to stay within an interval between 0€ and 10.50€. ⁵

In the second stage, I measure participants' willingness to pay for becoming a leader in Stage 3 of the experiment, which again follows the same PGG protocol as in Stage 1. Analogous to standard job search models (Cahuc et al., 2014) in which more effort increases the probability to get the job as well as to measure preferences to become a leader in an incentive-compatible way, applicants apply in form of a second price sealed bid auction (Vickrey, 1961). To apply to the leader position in Stage 3, subjects are endowed with an extra budget of 3.50€ independent of the payoffs they have earned in Stage 1. Different to Stage 1, leaders in Stage 3 receive a salary. This salary is either low (0.35€, i.e., adds 10% to the endowment) or high (1.75€, i.e., adds 50% to the endowment). ⁶ I use the strategy method and elicit subjects' bids for both positions and it is randomly determined which bid is relevant for the remainder of the experiment. Each subject competes against two other subjects. Groups are randomly re-mixed after the first stage but will stay the same in the subsequent Stage 3.

Stage 3 is almost equivalent to Stage 1 as it again consists of a PGG with chats and noisy feedback. However, team leaders are not randomly assigned to their roles but leader positions are filled according to the application outcome. ⁷

In each stage, subjects receive the same endowment. It is randomly determined whether subjects' payment is based on Stages 1 and 2 or on Stages 2 and 3. At the beginning of the experiment, subjects' risk preferences are elicited using urn gambles. Furthermore, subjects are asked to state their relative persuasion ability compared to others, their confidence in leading a group, their reasons for (not) applying (open text) as well as their willingness to claim or grant the lead (Giessner

⁵For 238 subjects (26%), the noise term had to be capped. 235 noise terms were capped at the maximum, 3 at the minimum contribution level.

⁶The salary cannot be used in the PGG.

⁷That is, in each group, the participant with the highest bid will be the leader of the group in Stage 3 and pays the second-highest bid submitted in the group.

et al., 2022). In the end of the experiment, stereotypes connected to this role were elicited both in an incentivized and non-incentivized way. Detailed instructions can be found in Appendix B.

Throughout the experiment, subjects do not know the gender of the other participants. Since the experiment was conducted online, participants were also unaware of the gender distribution in their session.⁸

The software oTree (Chen et al., 2016) was used for programming the experiment. The experiment was run online via the Cologne Laboratory of Economic Research from September 2023 to February 2024. Subjects were invited using the recruitment system ORSEE (Greiner, 2015) and participated online. The number of participants in the final sample is 901 of which 301 subjects are assigned to the team leader position in Stage 1 and 600 subjects are assigned to the team member position in Stage 1. The average participant is 28 years old. 51% of the subjects are female and 71% of the sample are students. Subjects were stratified by gender and randomly assigned to the leadership position to ensure a gender balance among team leaders in Stage 1. Table A1 in the Appendix shows that the Stage 1 team leaders and team members are balanced with respect to gender, age, and whether subjects are students or employees. There are some imbalances with respect to the field of study as well as the type of occupation. All regressions will thus control for those variables.⁹

3 Gender Application Gap

As a first step, I measure men's and women's willingness to become a leader in Stage 2 of the experiment – the application phase. As laid out in the above I elicited their willingness to pay for a low and a high salary position using the strategy method.

Figure 1 depicts the mean bids of male and female subjects for the low (lhs) and high (rhs) salary position.¹⁰ For the low salary position, I find (if anything) a small reversed gender application gap with women submitting 5% higher bids than men (0.41€ instead of 0.39€). For the high salary position, this pattern changes: women make 11% lower bids than men (1.11€ instead of 1.25€).¹¹ Both men and women are more willing to become a leader if it is linked to a high salary but men are more eager to take over this position than women.

⁸By not revealing the gender composition of the groups, the different effects on the willingness of men and women to lead are avoided (Born et al., 2022).

⁹Further, the gender composition of the sessions varied so that the gender compositions of the groups in Stage 1 of the experiment differ. I will therefore control for the gender composition of the groups in Stage 1. Subjects were not aware of the gender composition of their session or group.

¹⁰Figure A1 in the Appendix shows the distribution of bids for the low and high salary position separately for men and women.

¹¹The average bid for the low salary position (0.40€) exceeds the offered salary by 5 cents. The average bid (1.18€) for the high salary position does not exceed the wage of 1.75€. Bids of 0.34€ and 1.74€ would ensure a positive gain of 1 cent. This assumes that subjects do not have other costs of assuming the positions. As the mean bid for the high salary position is much lower than this bid, it can be presumed that subjects perceive unobservable costs of being a leader with a high salary. This can be interpreted as a first suggestion that they only perceive the high salary position as a leadership position in which (costly) engagement (e.g. in form of taking on the responsibility of convincing the team members) is expected or required. The low salary position does not seem to be perceived as such as indicated by the average bid.

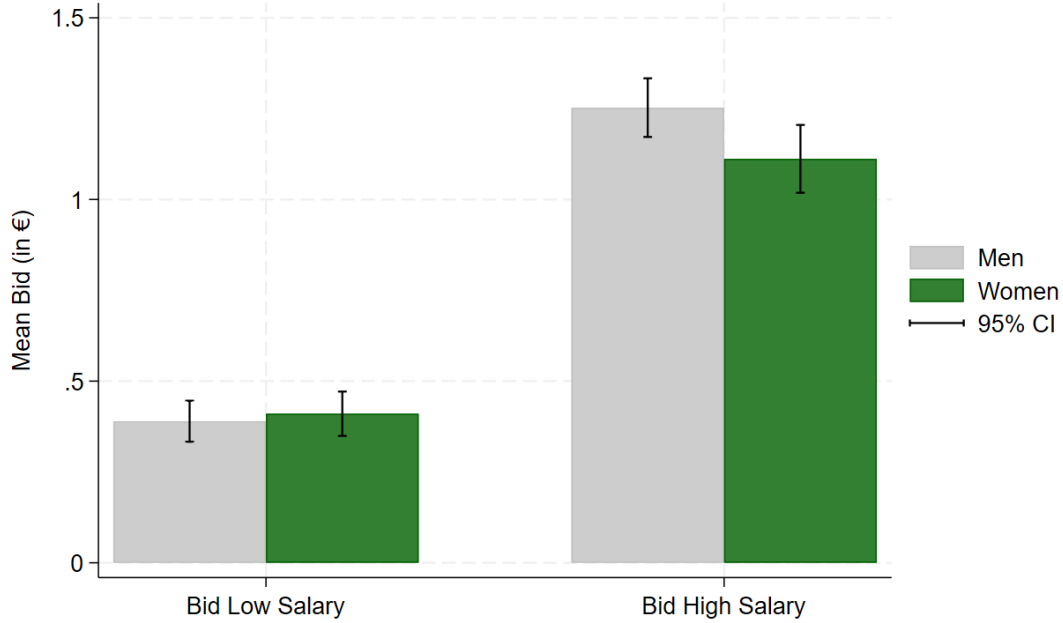


Figure 1: Mean Bids of Men and Women

To investigate this further, I run OLS regressions of the following form:

$$y_{iS} = \alpha + \beta Female_i + \gamma S + \delta Female_i \times S + \eta Leader_i + \theta X_i + \varepsilon \quad (2)$$

with $Female_i$ being a dummy indicating the gender of person i , S an indicator taking a value of 1 for the high salary position, and $Leader_i$ an indicator taking a value of 1 if the subject was assigned to the leader position in Stage 1. X_i is a vector of control variables.¹² The dependent variable y_{iS} represents the submitted bids (ranging from 0 to the maximal bid of 3.5) of person i for salary level S . In each specification, standard errors are clustered at the Stage-1-group level to account for the correlation of the submitted bids within a cluster, i.e. a group in Stage 1.¹³

Column (1) in Table 1¹⁴ shows the results for the main specification as defined in Equation (2). Columns (2) and (3) refer only to bids for the high and low salary position, respectively. Column (1) shows that there is no significant gender gap in bids for the low salary position. For the high salary position, both men and women submit higher bids as compared to the low salary position but

¹²For the main regressions, (seven) field of study dummies as well as (eight) occupation dummies will be included to account for the imbalances in these variables between the team leaders and team members. Furthermore, a categorical variable accounts for the gender composition of the group in Stage 1.

¹³Abadie et al. (2023) suggest that clustering at the individual level would suffice for the pooled specification while no clustering would be necessary for specifications (2) and (3) in Table 1 because the randomization unit is the individual. Following their suggestion (see Table A2 in the Appendix) does not change the significance of the results.

¹⁴Table A3 reports the specifications without controls and with controls including age as an additional control variable. The results are similar. 55.19% (51.45%) of female leaders (members) and 70.75% (63.57%) of male leaders (members) submitted a bid larger than zero for the low salary position. 75.97% (71.84%) of female leaders (members) and 87.07% (80.41%) of male leaders submitted a bid larger than zero for the high salary position. See Table A4 for results regarding this extensive margin.

Table 1: Gender Application Gap

	(1) Bid	(2) Bid High S.	(3) Bid Low S.
Female	-0.00293 (0.0533)	-0.185** (0.0857)	-0.00373 (0.0610)
High Salary	0.863*** (0.0358)		
Female \times High Salary	-0.162*** (0.0516)		
Leader Experience	0.0333 (0.0515)	0.0472 (0.0873)	-0.0119 (0.0570)
Female \times Leader Experience		0.0172 (0.135)	0.0443 (0.0854)
Constant	0.595** (0.283)	1.468*** (0.285)	0.578* (0.307)
R-squared	0.204	0.0275	0.0151
No. obs.	1802	901	901

Note: The table reports OLS regressions with the height of the submitted bids as outcome variables. Column (1) reports the pooled results, Columns (2) and (3) split the sample into bids for the high and low salary positions, respectively. Clustered standard errors at the Stage 1 group level in parentheses. All specifications control for field of study, occupation, the gender composition of the groups. * for $p < 0.10$, ** for $p < 0.05$ and *** for $p < 0.01$.

men's bids increase significantly and economically more than the ones submitted by women. Thus, there is a significant gender application gap for high salary positions (Column 2). This finding is in line with the observed gender gaps for top positions (e.g. McKinsey and LeanIn.Org, 2024), and women's higher likelihood of taking on low promotable tasks which typically come with lower pay (Babcock et al., 2017; Bircan et al., 2024). In my study, I can show that the mere increase in salary causes the emergence of a gender application gap for the highly paid position.

All specifications control for being assigned to the leadership position in Stage 1. There is no evidence for the leadership experience to affect the bidding behavior and thus the willingness to become a leader. As can be seen in Columns (2) and (3), I also do not find evidence that experience matters for women.

To sum the main results up, men are more eager than women to take over leader positions with high salary while I do not find evidence for such a gender gap if the leader's salary is low. Hence, the mere change of the salary level associated with a position holding all other factors constant leads to the emergence of a gender application gap. This finding allows to conclude that it is not the leadership role per se that causes the application gap. If this were true, there should be a significant gender gap for both positions. However, the descriptive data even suggests that women

are – if anything – more willing to become a leader with low salary compared to men. In the following, I will investigate the underlying mechanisms which explain why the large salary increase causes a gender application gap for leadership positions.

4 Mechanisms

The two leadership positions only differ in the level of the salary for the leader.¹⁵ This section explores the underlying reason for the change in the willingness to invest for leadership position which is induced by the increase in salary. This analysis will also allow to learn more about implications for policies targeting the reduction of the observed gender application gap for high salary positions.

4.1 Leader Performance

To start with, it is important to understand whether the gender gap in the willingness to invest for leadership positions reflects true performance differences between male and female leaders. As leaders earn more when their teams are more successful, such a performance difference could potentially rationalize a gender gap in applications for the high salary position.

Table 2: Leaders' Contributions

	Stage 1 (1)	High Salary (2)	Low Salary (3)
Female	0.217 (0.134)	0.318 (0.204)	0.339* (0.196)
Constant	2.958*** (0.224)	3.986*** (0.796)	3.098** (1.248)
R-squared	0.0415	0.172	0.107
No. obs.	301	124	165

Note: The table reports OLS regressions with the team leaders' contributions as outcome variables. Column (1) refers to Stage 1 leaders, Columns (2) and (3) to leaders in the high salary position and the low salary position, respectively. All regressions control for the gender of team members, field of study and occupation. Robust standard errors in parentheses. * for $p < 0.10$, ** for $p < 0.05$ and *** for $p < 0.01$.

A key factor in assessing leadership performance is the leader's own behavior, measured by their individual contributions. As shown in Table 2, if anything, female leaders tend to contribute more to the public good game than their male counterparts. While the difference is statistically significant only for leaders earning a low salary, the overall pattern of coefficients suggests a similar tendency across salary levels.

Beyond individual contributions, a leader's performance must also be evaluated through their team's performance, i.e. team members' contribution levels. It is the goal of the leader to per-

¹⁵And indeed, the word "salary" (*german: Vergütung*) is the word mentioned most often (by 18.74% (20.57%) of subjects) when subjects explain their decision to apply to the low- (high-) salary position in open-text fields.

suade their team members to contribute their entire endowment. Regardless of the leaders' own actions or their salary, higher contributions of the team members will also increase the leaders' own payoffs. Therefore, even when receiving a high salary, leaders should aim for high team members' contributions. Leaders in Stage 1 have been *randomly* assigned to the position of a leader and thus the performance of male and female leaders in Stage 1 is informative about gender differences in performance as leaders in this specific task.

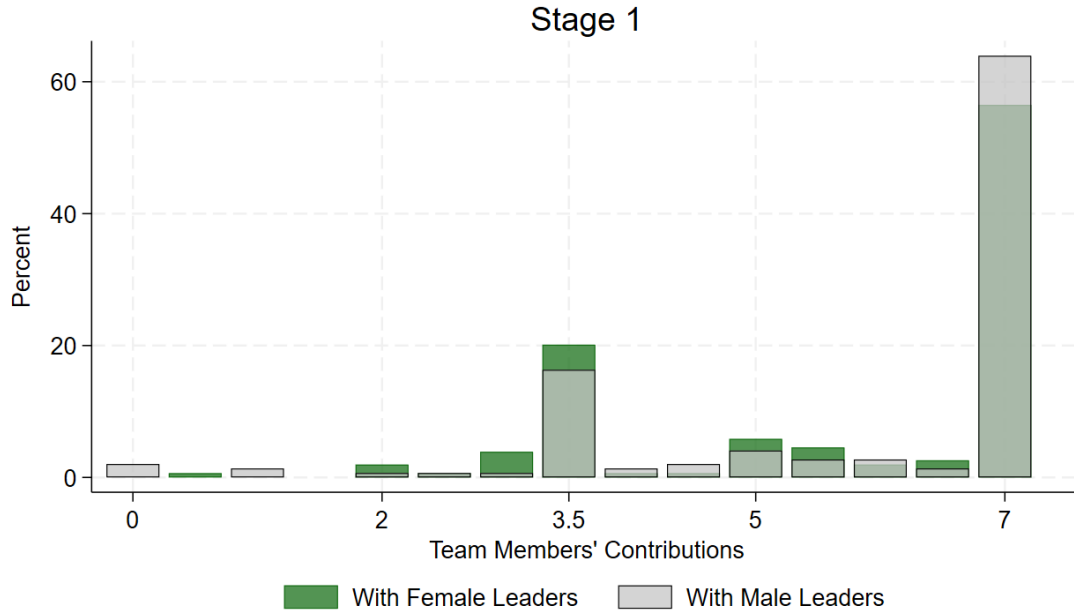


Figure 2: Team Members' Contributions (Stage 1)

Figure 2 depicts the distribution of the team members' contributions in a group led by a man or a woman in Stage 1.¹⁶ A Kolmogorov–Smirnov test could not reject equality of distributions between male and female leaders' performances ($p=0.798$). This indicates that there is no evidence for men and women to differ in their performance if in a role of a leader.

To further investigate gender differences in performance, I run OLS regressions considering additional factors. First, leaders' own contributions may affect their success as a leader as leaders seem to use statements about their own contributions as a tool to convince their team members.¹⁷ Second, the performance of the leader is not purely driven by the leaders themselves but also depends on the group's team members. Leaders did not know the gender composition of their group but there might be differences in men's and women's behaviors as team members. Therefore, I further control for the gender of leader's team members. Leaders can either communicate with two women, two men or a group of mixed gender.¹⁸

¹⁶See Figure A2 in the Appendix for an overview about distributions in all three Stages.

¹⁷According to the chat protocols, all team leaders in Stage 1 and Stage 3 discuss their contribution levels.

¹⁸Mixed gender groups also include teams which have at least one team member who indicated "diverse" as gender (less than 1% of the sample).

Table 3: Leader's Performance

	Stage 1		High Salary		Low Salary	
	(1)	(2)	(3)	(4)	(5)	(6)
Female	-0.133 (0.208)	-0.197 (0.207)	-0.0453 (0.339)	-0.189 (0.325)	-0.0990 (0.355)	-0.222 (0.354)
Own Contr.		0.294*** (0.112)		0.452*** (0.168)		0.363** (0.159)
Constant	7.521*** (0.369)	6.652*** (0.523)	3.985*** (0.528)	2.185** (0.863)	8.043*** (0.657)	6.919*** (0.830)
R-squared	0.0337	0.0661	0.0937	0.166	0.100	0.138
No. obs.	301	301	124	124	165	165

Note: The table reports OLS regressions with the sum of team members' contributions in a group as outcome variables (min = 0, max = 7). Columns (1) and (2) refer to Stage 1 leaders, Columns (3) and (4) to leaders in the low salary position and Columns (5) and (6) to leaders in the high salary position. All regressions control for the team members' gender and the leader's field of study and occupations. Robust standard errors in parentheses. * for $p < 0.10$, ** for $p < 0.05$ and *** for $p < 0.01$.

Table 3 shows the results of these regressions separately for leaders in Stage 1 (No Salary), and Stage 3 (High or Low Salary). Columns (1), (3), and (5) confirm the missing significance in a gender difference among men and women as leaders. Adding the own contribution level shows that the leader's contribution level significantly and positively relates to the team members' contributions. Though this variable is endogenous, the result confirms many other studies on this relationship (Fischbacher et al., 2001; Fehr and Gächter, 2000; Gächter et al., 2012). Importantly, in all specifications, the female indicator remains insignificant. This shows that women are at least as good leaders as compared to men. Even a negative point estimate of the female coefficient does not speak against this statement: female leaders contribute (if anything) more than male leaders (see Table 2) and their own contributions are significantly related to higher contributions of the team members.¹⁹ It can thus be concluded that neither those who were randomly selected for leadership nor those who self-selected into the positions show a significant gender gap in performance. Hence, there is no evidence for the gender application gap to reflect true performance differences.

4.2 Risk Attitudes and Confidence

In a second-price auction, which is used as the application format in this study, risk preferences should not impact the bidders' actions in equilibrium because the weakly dominant strategy is to bid the true valuation independent of the bidders' risk preferences (Chen et al., 2013). While the theory states that there is no reason to believe that risk preferences matter, the scarce empirical

¹⁹The larger contributions by female leaders do not significantly relate to the groups' overall contribution level: Table A5, Columns (1) – (3), in the Appendix can show that the overall group contribution is not significantly different for male and female leaders. Also, male and female leaders do not differ in their earnings received through the public good game (see Table A5, Columns (4) – (6), in the Appendix).

evidence on gender differences in bidding in second-price sealed-bid auctions shows mixed results.²⁰ Therefore, I investigate the role of risk attitudes in my setting in which men and women compete against each other in form of an auction.

Many studies stress that men are more likely to enter competition because of different preferences beyond overconfidence and risk attitudes (e.g. Niederle and Vesterlund, 2007; Niederle et al., 2013; Saccardo et al., 2018). However, more recent literature challenges these findings and points out that – if correctly measured – the entire gender gap in entry for competition can be explained by those personality traits (Gillen et al., 2019; van Veldhuizen, 2022).

Table 4: Gender Differences in Risk and Confidence

	(1) Risk1 (Std.)	(2) Risk2 (Std.)	(3) Prior Confidence (Std.)
Female	-0.0256 (0.0670)	-0.0828 (0.0655)	-0.0953 (0.0713)
Constant	-0.142 (0.365)	0.542*** (0.121)	-0.0522 (0.133)
No. obs.	901	901	901

Note: The table reports OLS regressions with the two standardized risk measures in Columns (1) and (2) and the standardized measure of prior confidence in Column (3). Robust standard errors in parentheses. All specifications control for field of study and occupation.* for $p < 0.10$, ** for $p < 0.05$ and *** for $p < 0.01$.

Prior confidence was elicited before subjects have been assigned to their roles and is thus not affected by the treatment.²¹ In particular, subjects answered four questions which in combination elicit how much subjects think they would be able to make a team member contribute more compared to a situation in which those were led by another team leader (ranging from -3.5 to 3.5).²² Positive (negative) values represent individuals who believe they are able to convince others to contribute more (less) than with another leader. This self-confidence measure is standardized to have a mean of zero and a standard deviation of one. In addition, risk attitudes were elicited twice in the beginning of the study using two similar urn gambles.²³ These risk measures are also

²⁰Women seem to bid less than men in a Vickrey auction for wine (Lecocq et al., 2005) and for a high-quality, limited-edition poster (Onderstal, 2020) but do not differ significantly in their bids for gourmet-chocolate (Rutström, 1998). While those analyses on gender differences may be affected by a gender difference in the preference for the goods auctioned, Chen et al. (2013) investigate the bidding behavior in a second-price sealed bid auction for an abstract object. Across the value distribution (see p. 38 of the online appendix on Yan Chen's webpage) and on average, Chen et al. (2013) do not find significant gender differences in bids for the abstract object for which they exogenously vary the value participants assign to this object.

²¹I did not elicit prior confidence twice before treatment assignment because there was no reasonable way of implementing a second measure without anticipating anchoring bias which is advised to avoid by Gillen et al. (2019).

²²Subjects were asked to guess the average contribution of a groups' team member if 1) they themselves were the team leader and 1a) were able to chat or 1b) were not able to chat and 2) someone else was the team leader who 2a) was able to chat or 2b) was not able chat with the team members. See Appendix B for details.

²³I elicit certainty equivalents with two multiple price lists. Subjects could choose between a safe option and an urn game with 50% probability of winning. In one urn gamble, subjects could choose between a safe option ranging from 0€ to 1€ in increments of 10 cents and an urn gamble with 50% probability of winning 1€. In the other, the list covered safe options up to 1.50€ and subjects could win 1.50€ in the urn game. The order of lotteries was

standardized to ease comparability.

Firstly, as found in many other studies, the average female participant in my study is more risk averse than the male but the mean difference is not significant at any conventional level (see Table 4). Secondly, the average man is also more confident than the average woman (not significant) in their ability to persuade their team members compared to another participant in a leader position.

To reduce the bias introduced by measurement error in the risk measures, I employ the ORIV instrumentation technique developed by Gillen et al. (2019). As I have two risk measures, I can instrument the first risk measure with the second and vice versa. Taking the average estimate from the two instrumentation approaches reduces the attenuation bias caused by measurement error (Gillen et al., 2019).²⁴

Table 5: Risk and Confidence

	(1) Bid High S.	(2) Bid Low S.
Female	-0.175** (0.0718)	0.0152 (0.0520)
Leader Experience	0.0569 (0.0677)	0.0116 (0.0449)
Risk (Instr.)	0.0520 (0.0570)	0.0686* (0.0401)
Prior Confidence (Std.)	0.00530 (0.0288)	-0.00357 (0.0178)
No. of subjects	901	901

Note: The table reports IV regressions with the height of the submitted bids as outcome variables. Column (1) reports the results for the high and and Column (2) for the low salary positions, respectively. The risk measures are instrumented by using the ORIV approach following Gillen et al. (2019). Clustered standard errors at the Stage-1 group level in parentheses. All specifications control for field of study, occupation, the gender composition of the groups.* for $p < 0.10$, ** for $p < 0.05$ and *** for $p < 0.01$.

Table 5 includes the instrumented risk as well as the confidence measures. For low salary positions, more risk loving participants submit higher bids compared to more risk averse participants. This effect is only significant at a ten percent level and is not robust to using clustered standard errors at the individual level (see Table A6 in the Appendix). Importantly, the inclusion of risk attitudes and confidence does not affect the size or significance of the main coefficients. I do not find evidence that risk attitudes or prior confidence can explain the gender gap in high salary positions.

randomized. See Appendix B for details.

²⁴As this approach requires to duplicate each individual, the sample size doubles. Gillen et al. (2019) suggest using clustered standard errors at the participant level to receive consistent estimates of the asymptotic standard errors. To stay consistent with the main specification, I cluster standard errors at the Stage-1-group level. Following Gillen et al. (2019) by using individual level clustered standard errors does not change the standard errors much but turns the previously significant ($p = 0.088$) effect of risk on applications to the low salary position insignificant ($p = 0.112$). See Table A6 for these results.

Therefore, risk attitudes or self-confidence in leadership skills are unlikely to be crucial drivers of the gender application gap for high salary positions.

4.3 Stereotypes

Leadership positions, especially those with high salaries, are primarily occupied by men (McKinsey and LeanIn.Org, 2024) and might thereby be seen as male-typed domains by society (Eagly, 1987; Badura et al., 2018; Koenig et al., 2011; Powell et al., 2002). Therefore, it is possible that the increase in financial incentive alters subjects' perceptions of the leadership role. To study this, I elicited these perceptions at the end of the experiment similar to the approach in Coffman et al. (2023): participants indicate on sliders whether the positions appear more suitable for men (1) or women (-1).

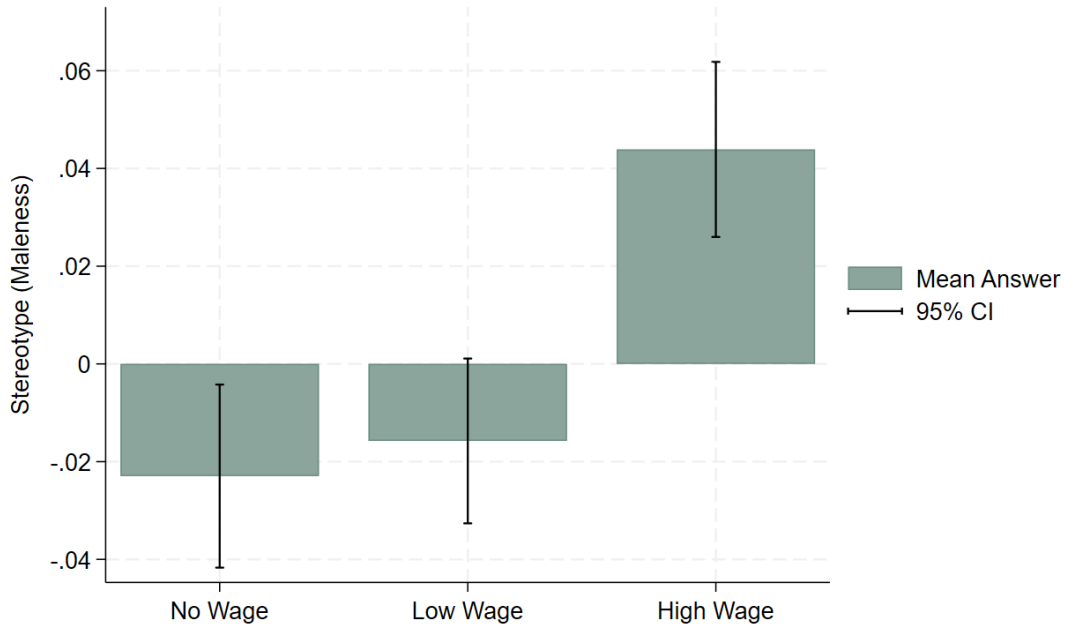


Figure 3: Stereotypical Thinking

Note: The bars represent the mean answers to the sliders asking about the suitability of men (1) and women (-1) for the different leader positions. Confidence bars represent the 95% confidence intervals.

As can be seen in Figure 3, participants on average state that the leadership position is rather suitable for women if there is *no* (mean = -0.023, t-test against zero yields $p=0.016$) or a *low* (mean = -0.016, $p=0.067$) payment but suitable for men if there is a *high* (mean = 0.044, $p<0.01$) payment. The stated suitability for the *no* as well as the *low* payment position differs from the *high* salary position at a 1% significance level, respectively. Table A7 in the Appendix shows the mean answers separately for male and female respondents. The answers by women are in line with those average results. Men's answers differ significantly from women's (see Table A8 in the Appendix) stating that all positions are more suitable for men than for women (positive means, n.s. for no salary position) but they see their strongest fit in the high salary position. In line with

the findings of the non-incentivized slider questions, women believe that there are relatively more women than men among the top performers in the no and low salary position. These beliefs were elicited using incentivized belief questions.²⁵ The female participants further believe that they do not differ significantly from men's performance in the high salary position. Men do not express significant differences in their beliefs about top performers.

Hence, the switch from a low to a high salary comes with a change in the perception of the position from a female-typed to a male-typed task, *although* neither the task itself nor anything else, except for the salary increase, changes. This complements finding by Babcock et al. (2017) in showing that women are more often those who perform low promotable tasks, i.e. tasks which are not helpful for evaluations and career-advancements and can be considered to be non-revenue-generating tasks in industry contexts (Babcock et al., 2017). My results show that this is already triggered by a mere change in the material benefits that can be derived from the task. Attaching a high salary hence comes with a shift in stereotypes which turns the leadership position into a stereotypical male position.

To further investigate the relationship between the submitted bids and stereotypical thinking, I study how the change in bids is related to the changes in perceived gender fit for the low and high salary position. In this analysis, I calculate the change in bids (ΔBids) as the difference between the bid for the high salary position and the low salary position. Similarly, I measure the perceived fit of the respective leadership position with an individual's own gender by taking the difference between the answer on the slider: for men, I subtract the answer referring to the low from the one referring to the high salary position ($\Delta\text{Stereot.} = \text{SliderHighS.} - \text{SliderLowS.}$) so that more positive values indicate a more stereotypical thinking, in which men are believed to be relatively more suitable for the high salary position as compared to women and the low salary position. For women, I take the difference between the slider answers concerning the low and high salary position ($\Delta\text{Stereot.} = \text{SliderLowS.} - \text{SliderHighS.}$) so that more positive values indicate a counter-stereotypical thinking, in which women are believed to be relatively more suitable for the high salary position as compared to men and the low salary position.

Regressing the difference in bids on the difference in stereotypes (see Table 6, Column 1) shows that for men there is indeed a positive relationship between the standardized slider measure and the standardized difference in bids: those men who hold more stereotypical beliefs about the gender fit for a position are also those who are more willing to take over the high salary position than the low salary position. This relation does not differ significantly by gender (see Column 1 in Table A9 in the Appendix) but for women, I do not find a significant relationship between their belief about the gender fit (slider) and their bidding behavior (Column 2 in Table 6).²⁶

²⁵These questions referred to the subject's session. Example Stage 1: "What percentage of the male team leaders in Stage 1, in which the team leaders did not receive any remuneration, managed to convince the team members to contribute their entire endowment, i.e. €3.50 per team member?" Subjects received an additional payment of 0,10€ per answer if the answer did not deviate more than 3 percentage points from the true share.

²⁶Table A9 in the Appendix repeats the analysis and includes the Stage 1 and 3 leader information and an indicator for being in a low or high salary group in Stage 3. The results remain similar but become insignificant if the sample is restricted to men.

Table 6: Relationship between Bid Difference and Stereotypes

	Men (1)	Women (2)
Δ Stereot. (Std.)	0.121* (0.0713)	-0.00366 (0.0493)
Constant	1.780*** (0.353)	-0.364*** (0.0108)
R-squared	0.0453	0.0230
No. obs.	419	452

Note: The table reports OLS regressions with the standardized difference in bids for the high and the low salary position as the outcome variables. Clustered standard errors at the Stage 1 group level in parentheses. All specifications control for the field of study and the occupation. Column (1) shows the results for men only, Column (2) restricts the sample size to female participants. * for $p < 0.10$, ** for $p < 0.05$ and *** for $p < 0.01$.

Hence, the money attached to the position comes with a change in the perceived gender congruence of the role and, especially for men, translates into subjects' willingness to pay for the highly paid positions.²⁷

4.4 Male-typed Positions and the Willingness to Lead

In the previous section, I have shown that subjects perceive the high salary position to be a male-typed task. It is therefore interesting to explore whether the low salary leadership positions are not perceived as a proper leader position. The low salary could contradict the common understanding of a usual wage of leaders and thereby affect the norm of who is a suitable candidate for the position.

Table 7: Willingness to Claim / Grant the Lead

	(1) Claim the Lead (Std.)	(2) Grant the Lead (Std.)
Female	-0.278*** (0.0691)	0.0479 (0.0702)
Constant	1.762*** (0.0691)	-1.211*** (0.0702)
R-squared	0.0445	0.0185
No. obs.	838	838

Note: The table reports OLS regressions with the standardized mean index of answers to the survey on claiming the lead ($\alpha > 0.89$) in Column (1) and granting the lead ($\alpha > 0.82$) in Column (2). Clustered standard errors at the participant level in parentheses. All specifications control for field of study and occupation. * for $p < 0.10$, ** for $p < 0.05$ and *** for $p < 0.01$.

Support for this hypothesis provide subjects' preferences to claim or grant the lead as measured

²⁷Table A10 in the Appendix shows that the difference emerges because subjects bid more for the high salary position (see Columns 1 to 3) rather than less for the low salary position (see Columns 4 to 6).

by the scale of Giessner et al. (2022). A sample item for the willingness to claim the lead is “I am open to the position of leading someone” and grant the lead includes for example “I don’t mind following someone’s lead for what needs to get done”. Table 7²⁸ reports the (standardized) survey answers. The results show that men and women do not differ significantly in their willingness to grant the lead. However, there is a significant and sizable gender gap in the willingness to claim the lead: women report *ceteris paribus* a 0.278 standard deviations lower willingness to claim the lead than men. Hence, there indeed is a gender difference in the preference to assume leadership positions.

Table 8: Bidding Behavior and the Willingness to Lead

	(1)	(2)	(3)
Female	-0.129* (0.0691)	-0.130* (0.0691)	-0.186*** (0.0689)
Claim the Lead (Std.)	0.209*** (0.0304)	0.183*** (0.0433)	
Grant the Lead (Std.)	-0.0718** (0.0340)		-0.141*** (0.0420)
Female × Claim the Lead (Std.)		0.0725 (0.0617)	
Female × Grant the Lead (Std.)			0.0629 (0.0670)
Constant	-0.630*** (0.102)	-0.615*** (0.109)	-0.271*** (0.0975)
R-squared	0.0762	0.0726	0.0369
No. obs.	838	838	838

Note: The table reports OLS regressions with the standardized bid difference as outcome variables. *Claim the Lead* and *Grant the Lead* are the mean index of answers to the survey on claiming the lead ($\alpha > 0.89$) and granting the lead ($\alpha > 0.82$). Clustered standard errors at the participant level in parentheses. All specifications control for field of study and occupation. * for $p < 0.10$, ** for $p < 0.05$ and *** for $p < 0.01$.

Besides this gender gap, Table 8 reveals that subjects who exhibit a stronger willingness to claim the lead and a lower willingness to grant the lead are also those who show larger differences in their bids for the two differently rewarded leadership positions. These relations do not significantly differ by gender (see Columns (2) and (3)) but women exhibit a lower preference to claim the lead (see Table 7). The significant association between the preferences to claim and grant the lead with the bid differences for the two different positions suggests that indeed only the high salary position is perceived to be a true leadership position for which the general willingness to lead matters. Further

²⁸The sample size is reduced compared to the previous analyses because some subjects are included in the main sample whose group partners quit the experiment so that they were not able to proceed to these questions. Further, one session had technical issues so that the survey was not displayed to those 33 subjects.

supportive evidence for this argument is provided by Table A11 in the Appendix: it shows that the relation between the willingness to claim the lead and the bidding behavior is more strongly related to the increased bids for the high salary position rather than by decreased bids for the low salary position. Also, the willingness to grant the lead is only significantly negatively related to bids for the high salary position but not for the bids for the low salary position (see Table A11 in the Appendix). Hence, especially for the high salary position the gender differences in preferences for leadership matter. This could - along with the change in stereotype - contribute to the gender application gap for high salary positions: high salaries may support the societal and internalized norms about leadership positions and leaders. These stereotypical perceptions of suitable leaders seem to deter women from seeking those leadership roles. Men, on the other hand, are more likely to view high-salary positions as more appropriate opportunities to assert leadership than the low salary positions.

5 Conclusion

This study investigates the willingness to pursue leadership positions, in order to better understand why women are less inclined than men to step into these roles. This experimental study examined the effect of experience and different salaries on the willingness to invest to attain leadership positions.

While the findings reveal that the exposure to leadership experience did not affect the application behavior of men and women (differently), an important distinction emerged: a gender application gap for leadership positions only emerges for positions that come with large salary increases but not for low salaries. Women exhibit a lower willingness to pay compared to men for assuming a highly paid leadership position although the leadership responsibility, task complexity, and other task dimensions remain the same. I furthermore find that the mere shift in salaries comes with a change of perceptions of leadership roles from stereotypical female to male stereotyped. With this shift in perception, women's generally lower willingness to take on leadership roles (as measured by the *Claim the Lead* scale from Giessner et al. (2022)) becomes a relevant factor in their application behavior.

Do these findings imply that women should be paid less to bring them into leadership position? My results speak against this naive idea. While the increase in monetary incentive causes the gender gap to emerge, stereotypes and norms about who is deemed suitable for leadership play a critical role. These stereotypes are triggered by a mere change in salary levels that come with the position as the high salary in my study shifts gender stereotypes about the position substantially. As such, the results highlight the need for interventions that explicitly address and challenge the societal norm that equates leadership with masculinity, particularly for positions that are perceived as high-status or high-reward.

I, however, also find that the intuitively appealing policy suggestion of exposing men and women to the leadership positions to reduce the stereotypical thinking does not seem to work in my setting.

Experience alone does not suffice to overcome the instilled stereotypes. Delfino (2024) has recently shown that, for instance, providing information about past performances of other employees might be a helpful tool to attract men in a female-dominated sector. It remains to be tested whether this can be adapted to applications for highly paid leadership positions.

From a practical standpoint, this study underscores the importance of rethinking how leadership roles are communicated. Emphasizing the collaborative and communicative aspects of leadership, rather than its stereotypically male-typed characteristics, could help reduce the gender gap in leadership aspirations as those are not the aspects deterring women from pursuing the leadership positions. The work of Fuchs et al. (2024) and Opitz (2025), for instance, shows that highlighting aspects of work which are appreciated in particular by women (such as working from home options or job flexibility) can increase their application rates. Stressing the communication aspect may also be used to reduce ambiguity about the job which has been shown to motivate women to apply in male-dominated fields (Coffman et al., 2024b). Another approach which has been discussed in the literature is to directly encourage women to enter male-dominated fields (Del Carpio and Guadalupe, 2022). It remains an empirical question whether these approaches also help to overcome stereotypes about leadership.

Future research should build on these findings to explore more effective interventions that target and reshape stereotypical thinking about leadership. Such efforts are not only critical for achieving gender balance in leadership positions but also for unlocking the potential of a more diverse talent pool, which could have profound benefits for organizations and society as a whole.

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A Appendix - Figures and Tables



Figure A1: Distribution of Bids



Figure A2: Team Members' Contributions (All Stages)

Table A1: Balance Table

Variable	(1) Pooled Sample	(2) Team Members	(3) Team Leaders	(4) Difference (3)-(2)
Female	0.514 (0.500)	0.515 (0.500)	0.512 (0.501)	-0.003 (0.035)
Age	27.920 (7.385)	28.095 (7.521)	27.571 (7.105)	-0.524 (0.507)
Student	0.710 (0.454)	0.707 (0.456)	0.718 (0.451)	0.011 (0.031)
Employee	0.166 (0.373)	0.168 (0.374)	0.163 (0.370)	-0.006 (0.024)
Civil Servant	0.073 (0.261)	0.068 (0.253)	0.083 (0.276)	0.015 (0.018)
Trainee	0.007 (0.081)	0.007 (0.081)	0.007 (0.081)	-0.000 (0.006)
Self-Employed	0.019 (0.136)	0.018 (0.134)	0.020 (0.140)	0.002 (0.010)
Unemployed	0.019 (0.136)	0.027 (0.161)	0.003 (0.058)	-0.023*** (0.007)
Retired	0.003 (0.058)	0.003 (0.058)	0.003 (0.058)	-0.000 (0.004)
No Answer (Occupation)	0.002 (0.047)	0.002 (0.041)	0.003 (0.058)	0.002 (0.004)
Human Sciences	0.085 (0.280)	0.072 (0.258)	0.113 (0.317)	0.041* (0.021)
Mathematics & Natural Sciences	0.084 (0.278)	0.097 (0.296)	0.060 (0.238)	-0.037* (0.019)
Medicine	0.039 (0.193)	0.047 (0.211)	0.023 (0.151)	-0.023** (0.012)
Arts and Humanities	0.069 (0.253)	0.070 (0.255)	0.066 (0.249)	-0.004 (0.017)
Law	0.054 (0.227)	0.065 (0.247)	0.033 (0.180)	-0.032** (0.015)
Management, Economics & Social Sciences	0.305 (0.461)	0.285 (0.452)	0.346 (0.476)	0.061* (0.033)
Other Faculty	0.095 (0.294)	0.100 (0.300)	0.086 (0.281)	-0.014 (0.021)
Observations	901	600	301	901

Note: Values in parentheses indicate standard deviations (Columns (1)-(3)) and standard errors (Column (4)). Standard errors are clustered at the Stage-1-group level. * for $p < 0.10$, ** for $p < 0.05$ and *** for $p < 0.01$.

Table A2: Gender Application Gap (Individual Clustered Standard Errors)

	(1) Bid	(2) Bid High S.	(3) Bid Low S.
Female	-0.00293 (0.0523)	-0.179** (0.0727)	0.0113 (0.0512)
High Salary	0.863*** (0.0339)		
Female \times High Salary	-0.162*** (0.0509)		
Leader Experience	0.0333 (0.0501)	0.0559 (0.0670)	0.0108 (0.0453)
Constant	0.595** (0.282)	1.470*** (0.282)	0.583* (0.306)
R-squared	0.204	0.0274	0.0149
No. obs.	1802	901	901

Note: The table reports OLS regressions with the submitted bids as outcome variables. Column (1) reports the pooled results with clustered standard errors at the individual level in parentheses. Columns (2) and (3) split the sample into bids for the high and low salary positions, respectively and show robust standard errors in parentheses. All specifications control for field of study, occupation and the gender composition of the groups. * for $p < 0.10$, ** for $p < 0.05$ and *** for $p < 0.01$.

Table A3: Gender Application Gap (Different Controls)

	(1) Bid	(2) Bid High S.	(3) Bid Low S.	(4) Bid	(5) Bid High S.	(6) Bid Low S.
Female	0.0208 (0.0437)	-0.141* (0.0775)	0.00990 (0.0520)	-0.00347 (0.0529)	-0.192** (0.0849)	0.00230 (0.0603)
High Salary	0.863*** (0.0356)			0.863*** (0.0358)		
Female × High Salary	-0.162*** (0.0514)			-0.162*** (0.0516)		
Leader Exp.	0.0391 (0.0502)	0.0583 (0.0853)	0.00338 (0.0559)	0.0330 (0.0516)	0.0415 (0.0878)	-0.00727 (0.0566)
Female × Leader Exp.		-0.000370 (0.132)	0.0324 (0.0829)		0.0216 (0.135)	0.0407 (0.0850)
Constant	0.376*** (0.0342)	1.233*** (0.0514)	0.388*** (0.0367)	0.619** (0.301)	1.739*** (0.323)	0.358 (0.315)
Controls	No	No	No	Yes	Yes	Yes
R-squared	0.192	0.00634	0.000627	0.204	0.0306	0.0197
No. obs.	1802	901	901	1802	901	901

Note: The table reports OLS regressions with the submitted bids as outcome variables. Column (1) & (4) report the pooled results, Columns (2) and (5) report the results for the bids to the high salary, Columns (3) and (6) restrict the sample to bids for the low salary position. Clustered standard errors at the Stage-1-group level in parentheses. Controls: field of study, occupation, gender composition of the groups, age. * for $p < 0.10$, ** for $p < 0.05$ and *** for $p < 0.01$.

Table A4: Gender Gaps in the Extensive Margin

	(1) Apply	(2) Apply High S.	(3) Apply Low S.
Female	-0.133*** (0.0366)	-0.0963*** (0.0313)	-0.130*** (0.0391)
High Salary	0.167*** (0.0182)		
Female \times High Salary	0.0385 (0.0267)		
Leader Experience	0.0517* (0.0280)	0.0568* (0.0289)	0.0466 (0.0347)
Constant	0.736*** (0.168)	1.034*** (0.0853)	0.605* (0.316)
R-squared	0.0736	0.0303	0.0463
No. obs.	1802	901	901

Note: The table reports OLS regressions with a dummy for non-zero bids as outcome variables. Column (1) reports the pooled results, Columns (2) and (3) split the sample into bids for the high and low salary positions, respectively. Clustered standard errors at the Stage-1-group level in parentheses. All specifications control for field of study, occupation and the gender composition of the groups. * for $p < 0.10$, ** for $p < 0.05$ and *** for $p < 0.01$.

Table A5: Group Contributions and Leaders' Payoffs

	Stage 1 (1)	High Salary (2)	Low Salary (3)	Stage 1 (4)	High Salary (5)	Low Salary (6)
	Total Group Contribution			Leaders' Payoffs		
Female	0.0843 (0.267)	0.273 (0.431)	0.240 (0.432)	-0.175 (0.112)	-0.182 (0.166)	-0.219 (0.181)
Constant	10.48*** (0.473)	7.971*** (1.681)	11.14*** (2.750)	5.782*** (0.961)	3.500*** (0.648)	5.972*** (1.151)
R-squared	0.0210	0.101	0.112	0.0560	0.143	0.0869
No. obs.	301	124	165	301	124	165

Note: The table reports OLS regressions with the groups' overall contributions (including the leader's contribution, i.e. $\min = 0$, $\max = 10.5$) as outcome variables in Columns (1)-(3) and team leaders' payoffs (without salary) as outcome variables in Columns (4) - (6). Columns (1) and (4) refer to Stage 1 leaders, Columns (2) and (5) to leaders in the high salary position and Columns (3) and (6) to leaders in the low salary position. All regressions control for the gender of team members, field of study and occupation. Robust standard errors in parentheses. * for $p < 0.10$, ** for $p < 0.05$ and *** for $p < 0.01$.

Table A6: Risk and Confidence (Ind. Clustered Standard errors)

	(1) Bid High S.	(2) Bid Low S.
Female	-0.175** (0.0720)	0.0152 (0.0506)
Leader Experience	0.0569 (0.0662)	0.0116 (0.0447)
Risk (Instr.)	0.0520 (0.0575)	0.0686 (0.0431)
Prior Confidence (Std.)	0.00530 (0.0300)	-0.00357 (0.0181)
No. of subjects	901	901

Note: The table reports IV regressions with the submitted bids as outcome variables. Column (1) reports the results for the high and and Column (2) for the low salary positions, respectively. The risk measures are instrumented with the ORIV approach following Gillen et al. (2019). Clustered standard errors at the individual level in parentheses. All specifications control for field of study, occupation, the gender composition of the groups.* for $p < 0.10$, ** for $p < 0.05$ and *** for $p < 0.01$.

Table A7: Perceived Gender-Fit

Position	Average Response by Men	Average Response by Women	Overall Average
No Salary	0.016 (p=0.167)	-0.059*** (p < 0.01)	-0.023* (p = 0.016)
Low Salary	0.023** (p=0.047)	-0.052*** (p<0.01)	-0.016* (p = 0.067)
High Salary	0.078*** (p<0.01)	0.012 (p=0.351)	0.044*** (p<0.01)

Notes: The table reports the average responses to the slider questions asking about the suitability of men and women to be a leader with the three different salary options by gender. P-values refer to t-tests against zero. * for $p < 0.10$, ** for $p < 0.05$ and *** for $p < 0.01$

Table A8: Gender Differences Perceived Gender Fit

	(1) Maleness No Salary	(2) Maleness Low Salary	(3) Maleness High Salary
Female	-0.0755*** (0.0193)	-0.0685*** (0.0171)	-0.0612*** (0.0182)
Constant	0.0755*** (0.0193)	0.0685*** (0.0171)	0.0612*** (0.0182)
R-squared	0.0337	0.0345	0.0235
No. obs.	871	871	871

Note: The table reports OLS regressions with the answer to the slider questions as outcome variables ranging from -1 (suitable for women) to 1 (suitable for men). Robust standard errors in parentheses. All specifications control for the field of study and the occupation. * for $p < 0.10$, ** for $p < 0.05$ and *** for $p < 0.01$.

Table A9: Relationship Bid Differences and Stereotypes

	All (1)	Men (2)	Women (3)
Δ Stereot. (Std.)	0.121* (0.0726)	0.118 (0.0721)	0.0191 (0.0485)
Female	-0.274*** (0.0877)		
Female \times Δ Stereot. (Std.)	-0.108 (0.0865)		
Constant	-0.371 (0.248)	1.594*** (0.410)	-0.793*** (0.235)
R-squared	0.0868	0.0808	0.0963
No. obs.	871	419	452

Note: The table reports OLS regressions with the standardized difference in bids for the high and the low salary positions as the outcome variables. Clustered standard errors at participant level in parentheses. All specifications control for the field of study, the occupation, the gender compositions of groups in Stages 1 and 3, being a leader in Stage 1 or 3 and being in the low or high salary group. Column (2) shows the results for men only, Column (3) restricts the sample size to female participants. * for $p < 0.10$, ** for $p < 0.05$ and *** for $p < 0.01$.

Table A10: Relationship Actual Bids and Stereotypes

	All (1)	Men (2)	Women (3)	All (4)	Men (5)	Women (6)
	Bid High S.			Bid Low S.		
Δ Stereot. (Std.)	0.0601* (0.0346)	0.0585* (0.0353)	-0.0680 (0.0598)	-0.0337 (0.0383)	-0.0343 (0.0388)	-0.0652 (0.0479)
Female	-0.155** (0.0631)			0.0116 (0.0445)		
Female \times Δ Stereot. (Std.)	-0.131* (0.0671)			-0.0318 (0.0608)		
Constant	1.670*** (0.0648)	2.638*** (0.631)	1.515*** (0.0131)	1.003*** (0.0436)	0.492 (0.360)	1.014*** (0.0105)
R-squared	0.0283	0.0376	0.0322	0.0212	0.0349	0.0307
No. obs.	871	419	452	871	419	452

Note: The table reports OLS regressions with the submitted bids for the high (Columns 1-3) and the low salary position (Columns 4-6) as the outcome variables. Clustered standard errors at the Stage 1 group level in parentheses. All specifications control for the field of study and the occupation. Columns 2 and 5 show the results for men only, Columns 3 and 6 restrict the sample size to female participants. * for $p < 0.10$, ** for $p < 0.05$ and *** for $p < 0.01$.

Table A11: Willingness to Lead (Separate Bids)

	All (1)	Men (2)	Women (3)	All (4)	Men (5)	Women (6)
	Bid High S.			Bid Low S.		
Claim the Lead (Std.)	0.274*** (0.0334)	0.174*** (0.0503)	0.372*** (0.0459)	0.113*** (0.0250)	0.0531 (0.0357)	0.177*** (0.0364)
Grant the Lead (Std.)	-0.0793** (0.0324)	-0.129*** (0.0419)	-0.0203 (0.0496)	-0.0242 (0.0227)	-0.0331 (0.0285)	-0.00239 (0.0347)
Female	-0.0480 (0.0645)			0.0510 (0.0460)		
Constant	1.049*** (0.0958)	2.538*** (0.645)	0.925*** (0.0778)	0.753*** (0.0674)	0.475 (0.364)	0.734*** (0.0562)
R-squared	0.117	0.0993	0.164	0.0489	0.0456	0.0905
No. obs.	838	409	429	838	409	429

Note: The table reports OLS regressions with the bids for the high salary positions in Columns (1) - (3) and the low salary positions in Columns (4) - (6). *Claim the Lead* and *Grant the Lead* are the mean index of answers to the survey on claiming the lead and granting the lead. Columns (2) and (5) show the results for men only, Columns (3) and (6) restrict the sample size to female participants. Clustered standard errors at participant level in parentheses. All specifications control for field of study and occupation. * for $p < 0.10$, ** for $p < 0.05$ and *** for $p < 0.01$.

B Appendix - Instructions

This chapter includes the translated instructions of the experiment. The original German instructions were formulated in a gender neutral language. Horizontal lines indicate new pages. Colors are only used to clarify text which was displayed to specific roles. For participants, the entire text was black.

Welcome!

Welcome, and thank you for participating in this experiment.

Participation Information:

Experiment Leader: Paula Thevißen, University of Cologne (paula.thevissen@wiso.uni-koeln.de)

Participant Rights:

Your participation is entirely voluntary, and you may withdraw from the experiment at any time without providing reasons. However, for your data to be used for research purposes, it is necessary for you to complete all parts of the experiment. Therefore, please only participate if you can remain attentive until the end of the experiment. This is crucial for this study. Additionally, inattentiveness can lead to reduced payouts not only for you but also for other participants and may compromise the quality of the scientific study.

Data Privacy:

All data collected in this experiment is anonymous and will be used for scientific purposes. This means that it is impossible to identify individual participants. Your payment data will be recorded and stored separately from your behavioral data. Please note that you must not reveal your identity to other participants during the experiment. You will also not receive information about the identities of other participants.

Procedure and Payments:

The experiment consists of several parts where you can earn money. The amount earned depends on your decisions and the decisions of other participants. Therefore, please read these instructions carefully. For arriving on time and completing the study, you will receive €1. However, if you withdraw from the study for any reason before its completion, you will not receive any payments, including the €1.

This experiment involves multiple participants simultaneously. To ensure a smooth and efficient process for all participants, you must respond within a specified time frame. If you exceed the time limit, you will not be able to continue the experiment and will not receive any payments.

Payment Terms:

Payments will be made via SEPA bank transfer. Other payment methods are not possible. It is your responsibility to complete the payment form accurately and truthfully after finishing the experiment and to note down the payment code for any follow-up inquiries. Otherwise, payment cannot be issued. You have 4 hours after the experiment ends to fill out the payment form. If the form is not completed within this time, the payment claim will expire.

Do you agree to these terms and wish to participate in the study? *[yes, no]*

Urn Game

In the next task, you will evaluate the value of several games of chance. The games will involve virtual urns filled with red and black balls. You will receive information about the composition of each urn.

You may choose which color ball will award you a payout. If you choose to play the urn game, a ball will be drawn from the urn. If the ball drawn matches your chosen color, you will receive a reward. If it is the other color, you will receive nothing.

You will soon see a list of monetary amounts ranging from 0€ to 1€/0€ to 1.50€²⁹ in increments of 10 cents. For each amount, you must decide whether you prefer the fixed amount or the urn game. Once you select an option, the remaining options will automatically adjust logically (to save you time).

You should click through the options until each row reflects your preference. This is important because at the end of the study, a random row will be selected from the list, and you will receive the option you chose in that row. If you selected a fixed amount in that row, you will receive that amount. If you chose the urn game, a ball will be drawn, and you will be paid according to the outcome as described above.

In the next choice, the urn will contain 20 balls/30 balls, of which 10 are red and 10 are black/15 are red and 15 are black.

Which ball would you like to win 1€/1.50€ if it is drawn from the urn in the following questions? Please note that this means you will receive 0€ if the other color is drawn.

- (a) red
- (b) black

Urn with an Equal Number of Red and Black Balls

The urn from which a ball will be drawn consists of 10 red and 10 black balls / 15 red and 15 black balls.

If the ball drawn is [red/black], you will be paid 1€/ 1.50€.

What would you prefer? (Ensure that one option is selected in each row.)

²⁹It was randomized which urn gamble was decided on first

Option A		Option B
UrnenSpiel	<input type="radio"/> <input type="radio"/>	10Cent
UrnenSpiel	<input type="radio"/> <input type="radio"/>	20Cent
UrnenSpiel	<input type="radio"/> <input type="radio"/>	30Cent
UrnenSpiel	<input type="radio"/> <input type="radio"/>	40Cent
UrnenSpiel	<input type="radio"/> <input type="radio"/>	50Cent
UrnenSpiel	<input type="radio"/> <input type="radio"/>	60Cent
UrnenSpiel	<input type="radio"/> <input type="radio"/>	70Cent
UrnenSpiel	<input type="radio"/> <input type="radio"/>	80Cent
UrnenSpiel	<input type="radio"/> <input type="radio"/>	90Cent

Figure A3: Screenshot Urn Game 1

Multiple price lists with “Urn Game” on the left and “X€” on the right, where X increments in steps of 10 cents from 0 to 1€/1.50€. The picture shows a screenshot of the version up to 1€.

Demographic Information

Before proceeding, please answer the following questions:

Please provide your age. *[Open text field]*

Please indicate your gender. *[Male, Female, Diverse]*

Please select your occupation. *[Student, Employed, Civil Servant, Trainee, Self-Employed, Unemployed, Retired, Other]*

If you selected Student in the previous question, please choose the faculty in which you study. *[Faculty of Humanities, Faculty of Mathematics and Natural Sciences, Faculty of Medicine, Faculty of Philosophy, Faculty of Law, Faculty of Economics and Social Sciences]*

Urn Game

In the next selection, the urn will contain 30 balls / 20 balls, of which 15 are red and 15 are black / 10 are red and 10 are black.

Which ball would you like to win 1.50€/1€ if it is drawn from the urn in the following questions?

Please note that this means you will receive 0€ if the other color is drawn.

(a) red

(b) black

Urn with an Equal Number of Red and Black Balls

The urn from which a ball will be drawn consists of 15 red and 15 black balls / 10 red and 10 black balls.

If the ball drawn is [red/black], you will be paid 1.50€/1€.

What would you prefer? (Ensure that one option is selected in each row.)

Option A		Option B
UrnenSpiel	<input type="radio"/> <input type="radio"/>	10Cent
UrnenSpiel	<input type="radio"/> <input type="radio"/>	20Cent
UrnenSpiel	<input type="radio"/> <input type="radio"/>	30Cent
UrnenSpiel	<input type="radio"/> <input type="radio"/>	40Cent
UrnenSpiel	<input type="radio"/> <input type="radio"/>	50Cent
UrnenSpiel	<input type="radio"/> <input type="radio"/>	60Cent
UrnenSpiel	<input type="radio"/> <input type="radio"/>	70Cent
UrnenSpiel	<input type="radio"/> <input type="radio"/>	80Cent
UrnenSpiel	<input type="radio"/> <input type="radio"/>	90Cent
UrnenSpiel	<input type="radio"/> <input type="radio"/>	100Cent
UrnenSpiel	<input type="radio"/> <input type="radio"/>	110Cent
UrnenSpiel	<input type="radio"/> <input type="radio"/>	120Cent
UrnenSpiel	<input type="radio"/> <input type="radio"/>	130Cent
UrnenSpiel	<input type="radio"/> <input type="radio"/>	140Cent

Figure A4: Screenshot Urn Game 2

Multiple price lists with “Urn Game” on the left and “X€” on the right, where X increments in steps of 10 cents from 0 to 1€/1.50€. The picture shows a screenshot of the version up to 1.50€.

Detailed Information

Please note that the “Next” buttons will only appear after a set time to ensure all participants have sufficient time to read the instructions. Please do not refresh the pages!

The experiment consists of three main parts, during which you will receive further instructions at the beginning and throughout the experiment. Additionally, you will answer some questions. In the three main parts, you will act within a group of three participants. Please note that the groups will be reshuffled after the first part, and the groups will remain the same in the second and third parts. Therefore, your group in the first part may differ from the group you work with in the second and third parts.

In each of the three parts of the experiment, you will initially receive 3.50€ . In the first and final parts, this 3.50€ will be your endowment. You can decide how much of this endowment you would like to contribute to the group and how much you wish to keep for yourself.

A) The money you keep:

The money you keep will be paid to you one-to-one. For example, if you keep 3.50€ and contribute nothing to the group, your payout for the first part will be exactly 3.50€. If you keep €1.50, your payout for part A) of the first section will be €1.50. Only you and no one else will benefit from the money you keep.

B) The money you contribute to the group:

You may also contribute money to the group. All group members benefit equally from this contribution. The money contributed to the group is multiplied by 0.5. The income from the group contribution is calculated for each group member as follows:

$$\text{Income from part B)} = 0.5 \cdot \text{sum of contributions from all group members (including your own)}$$

For example, if the total contributions of all group members amount to 10.50€, you and all other members of your group will each earn $10.50\text{€} \cdot 0.5 = 5.25\text{€}$. If the total contribution to the group is 2.50€, you and the other two group members will each receive $2.50\text{€} \cdot 0.5 = 1.25\text{€}$.

Your total income:

Your total income is the sum of income from A) and B):

$$\text{Your income} = (3.50\text{€} - \text{your group contribution}) + (0.5 \cdot \text{sum of contributions from all group members})$$

Examples

Here are some examples with an endowment of 3.50€:

- If all group members contribute their entire endowment to the group, your income and that of the other group members will be:

$$\text{Your income} = (3.50\text{€} - 3.50\text{€}) + (0.5 \cdot (3.50\text{€} + 3.50\text{€} + 3.50\text{€})) = 5.25\text{€}$$

- If no group member contributes anything, your income and that of the other group members will be:

$$\text{Your income} = (3.50\text{€} - \text{€}0) + (0.5 \cdot (0\text{€} + 0\text{€} + \text{€}0)) = 3.50\text{€}$$

- If the other two group members together contribute 3.50€

- and you contribute nothing, your income will be:

$$\text{Your income} = (3.50\text{€} - \text{€}0) + 0.5 \cdot (0\text{€} + 3.50\text{€}) = 5.25\text{€}$$

- If you contribute 2€, your income will be:

$$\text{Your income} = (3.50\text{€} - 2\text{€}) + 0.5 \cdot (2\text{€} + 3.50\text{€}) = 4.25\text{€}$$

- If you contribute 2.50€, your income will be:

$$\text{Your income} = (3.50\text{€} - 2.50\text{€}) + 0.5 \cdot (2.50\text{€} + 3.50\text{€}) = 4\text{€}$$

- If you contribute 2€ and the others contribute 1.80€ in total, your income will be:

$$\text{Your income} = (3.50\text{€} - 2\text{€}) + 0.5 \cdot (2\text{€} + 1.80\text{€}) = 3.40\text{€}$$

- If you contribute 2€ and the others contribute €3, your income will be:

$$\text{Your income} = (3.50\text{€} - 2\text{€}) + 0.5 \cdot (2\text{€} + 3\text{€}) = 4\text{€}$$

- If you contribute 2€ and the others contribute 5.50€ in total, your income will be:

$$\text{Your income} = (3.50\text{€} - 2\text{€}) + 0.5 \cdot (2\text{€} + 5.50\text{€}) = 5.25\text{€}$$

Other combinations are also possible.

Feedback

After all participants have made their decisions, you will receive feedback on the total amount contributed by the group. Please note that a random number will be added to or subtracted from this total.

The process is as follows: An urn contains 5 balls, each labeled with one of the following numbers:

-2, -1, 0, 1, 2

One ball is drawn from the urn, and the drawn number is added to the total amount actually contributed by the group.

For example, if the total contribution amounts to 6€ and the randomly drawn number is -2, you will be informed that the total group contribution is 4€. Likewise, if the number 0 is drawn, the correct total of 6€ will be displayed.

Please note that the feedback will always fall between 0€ and 10.50€. The possible limits of contributions (everyone contributes nothing: 0€; everyone contributes everything, i.e., 3.50€: 10.50€) will not be exceeded.

Payments

In the first and third parts of this experiment, you will make the exact decision described above: How much of my endowment will I contribute to the group, and how much will I keep? Only one of these two parts, in which you act within the group, will be paid out. A random draw will determine whether you receive payments from the first or the last part. You will learn this at the end of the experiment. Payments from Part 2 of the experiment are guaranteed. Further details about this will be provided during the experiment.

Reminder: Please note that the “Next” buttons will only appear after a certain amount of time. Do not refresh the pages during this time!

Leadership Role

During the experiment, one person in each group will take on the leadership role (“team leader”). The team leader will have the opportunity to communicate with the two other team members in separate chat rooms simultaneously within a 3-minute time frame. All other members of the group can only chat with the team leader and not with each other. You are not allowed to disclose your identity during the chats or provide any hints about your background, gender, age, or other personal characteristics. After the chats are closed, both the team members and the team leader can make their decisions regarding group contributions.

Assigning the Leadership Role

In the first part of the experiment, you will be randomly assigned to groups of three. Then, the leader will be chosen randomly. On your screen, you will see whether you have been assigned as the team leader or as a team member.

Reminder: Please note that the “Next” buttons will only appear after a certain amount of time. Do not refresh the pages during this time!

Control Questions

To ensure that you have understood the instructions, please answer the following questions. The experiment will only continue once all questions have been answered correctly.

Reminder: Below is the payout formula once again:

Your income = $(3.50\text{€} - \text{your group contribution}) + (0.5 \cdot \text{sum of contributions from all group members})$

- What is your payout if no group member contributes anything to the group? *[3.50, 4, 5, 5.25]*
- What is your payout if each group member contributes their entire endowment to the group? *[3.50, 4, 5, 5.25]*
- What is your payout if the other two group members contribute a total of 5€, and you contribute 2€? *[3.50, 4, 5, 5.25]*
- What is your payout if you contribute 2€ and the other two group members contribute a total of 3€? *[3.50, 4, 5, 5.25]*
- Who can the team leader chat with?
 - No one
 - Only one team member
 - Both team members in one chat
 - Both team members in two separate chats
- The group has contributed a total of 7€. What feedback will you receive?
 - Exactly 7€
 - Exactly 10€
 - Between 0€ and 5€
 - Between 5€ and 9€

Personal Assessment

- This question refers to the other groups in the experiment, not your own. The team members make decisions about their endowment after chatting with the team leader. How high do you estimate the average amount contributed by each of the two other participants in other groups? *[Fields capped at 3.50€]*
- This question refers to your own group. Imagine you are the team leader in your group. The two team members make decisions about their endowment after chatting with you as the team leader. How high do you estimate the average amount contributed by each of the two other participants in your group? *[Fields capped at 3.50€]*
- This question refers to your own group. Imagine you are the team leader in your group, but the team leader is not allowed to chat. The team members make decisions about their endowment without chatting with you as the team leader. How high do you estimate the average amount contributed by each of the two other participants in your group? *[Fields capped at 3.50€]*
- This question refers to the other groups in the experiment, not your own. Imagine the team leader is not allowed to chat. The team members make decisions about their endowment without chatting with a team leader. How high do you estimate the average amount contributed by each of the two other participants in other groups? *[Fields capped at 3.50€]*

Your Role

Your group consists of three people, one of whom is the team leader and the other two are team members. Your position has been randomly determined. You are assigned the following position: **Team Member** / **Team Leader**

Chats

On the following page, the chat rooms will open. You will have 3 minutes to communicate.

[Team Member:] You can only chat with the team leader in your chat.

[Team Leader:] You will see two chat rooms: In the upper chat room, you will chat with Team Member 2, and in the lower chat room with Team Member 3. Please note that the chat rooms are separate. Each team member can only see the messages you send in the respective chat room and not the messages sent in the other chat.

After the time expires, the chat rooms will automatically close, and you will be directed to the next page, where you will make your decision about the use of the endowment.

Click “Next” to access the chats.

Reminder: Please note that the “Next” buttons will only appear after a certain amount of time. Do not refresh the pages during this time!

Chat

Verbleibende Zeit bis die Chaträume schließen 2:23

Ihre Position: **Teamleitung.**

Im oberen Chat können Sie mit Teammitglied2 und in dem unteren Chat mit Teammitglied3 chatten.

Chat Teammitglied2:

Senden

Chat Teammitglied3:

Senden

Figure A5: Screenshot of Team Leaders' Chat Interface

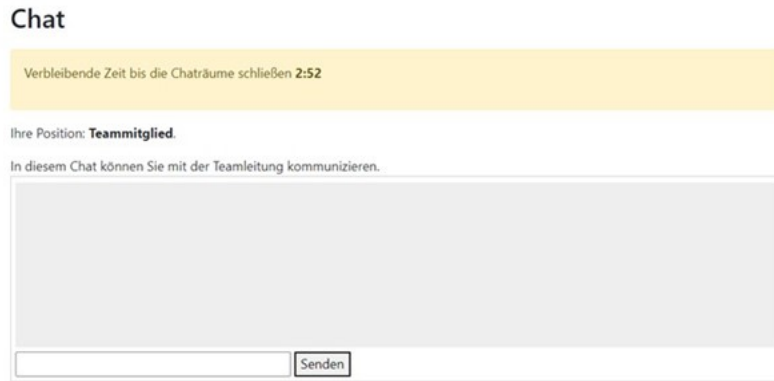


Figure A6: Screenshot of Team Members' Chat Interface

Decision About Group Contributions - Part 1

Your endowment is 3.50€. Please indicate how much of this endowment you wish to contribute to the group. How much would you like to contribute to the group? *[Fields capped at a maximum of 3.50€]*

Personal Assessment I

This question refers to your own group:

- How much do you estimate the total contribution made by the other two participants in your group? *[Fields capped at a maximum of 7€]*
 - How much would this total be if the team leader had not been able to chat? *[Fields capped at a maximum of 7€]*
 - [Team Leader:] How much would this total be if another person in the group had been the team leader? *[Fields capped at a maximum of 7€]*
 - [Team Member:] How much would this total be if you had been the team leader? *[Fields capped at a maximum of 7€]*
-

Personal Assessment II

How strongly do you agree with the following statement?

“I am good at leading a group and convincing them to make high contributions.” *[5 point Likert scale: Strongly Disagree – Strongly Agree]*

Results Part 1

You contributed XX€ to the group.

The total contribution by the group is: XX€.

Reminder: A random number from the following list has been added to this amount: -2, -1, 0, 1, 2.

How much do you estimate the total contribution made by the other two participants in your group? *[Fields capped at a maximum of 7€]*

Part 2 - Application

General Information

Before you start the third part of the experiment, you will be randomly assigned to a group of three participants. This group may differ from your group in Part 1. Within this group, you will have the opportunity to apply for the team leader role. This means you and the other two participants in your group will submit an application for the team leader position. These three applications will be compared, and the team leader for Part 3 will be determined based on them.

Compensation for the Leadership Role

Unlike in Part 1 of the experiment, the team leader will receive compensation. Other than this, the leadership position is identical to the team leader role in Part 1. The compensation can take on one of two values:

- **Compensation A:** 0.35€
- **Compensation B:** 1.75€

A random draw will determine which of the two compensations will apply if you assume the leadership role in Part 3 and if Part 3 is selected as the payout-relevant part. You will submit one application for each compensation scenario.

Application

For your application, you will receive a budget of 3.50€. You can use this budget to bid for the team leader role. Your bid can only refer to this application budget, meaning you can bid a minimum of 0€ and a maximum of 3.50€.

All participants in your group will submit a bid for the leadership role simultaneously. No other participant will see your bid. The person with the highest bid in your group will become the team leader in Part 3.

If your bid is the highest in your group, you will not pay your own bid amount but rather the highest bid that did not win. If you do not win the team leader role, your application budget of 3.50€ will be fully refunded to you. If two or more participants submit the same highest bid, a random draw will determine which of these participants assumes the leadership role.

The Nobel laureate William Vickrey showed that it is optimal for you to bid exactly the amount that the leadership role is worth to you. You do not need to guess how much others are willing to bid, as this does not affect your optimal strategy in this context.

If you bid more than you are willing to pay, your chance of getting the leadership position increases. However, if you win the position, you risk paying more than the role is worth to you, which should be avoided. If you bid less than you are willing to pay, your chance of winning the leadership role decreases. In this case, another person might assume the role even though you were willing to pay more for it than they were. Therefore, the best approach is to bid exactly the amount you are willing to pay for the leadership position.

On the next page, you will see illustrative examples of bids. Click “Next” to proceed.

Reminder: Please note that the “Next” buttons will only appear after a certain amount of time. Do not refresh the pages during this time!

Example

The following table illustrates an example of bids:

Person	Person 1	Person 2	Person 3
Bid	0€	1€	3.50€

In this example, Person 3 submitted the highest bid. Person 3, therefore, assumes the leadership role. The highest bid that did not win is Person 2’s bid of 1€. This is the amount Person 3 must pay for the leadership role.

Person 3 receives the leadership role and pays 1€. Their payout from the application phase is: 3.50€ - 1€ = 2.50€ (application budget - price for the leadership role).

The other participants receive their entire application budget of 3.50€ and will be team members in Part 3. During the application phase, it is optimal to state your true preference for the leadership position. Do not bid less or more than you are truly willing to pay for this role.

After the Application Phase

In Part 3, you will first find out which application was relevant to you (Compensation A or B). You will also learn whether your application was successful and whether you will assume the leadership role.

After the application phase, the leader will have the opportunity to chat with the team members before all group members make their decisions about group contributions.

To ensure that you understand the application process, you will answer some questions on the next page. Click “Next” to proceed.

Reminder: Please note that the “Next” buttons will only appear after a certain amount of time. Do not refresh the pages during this time!

Control Questions

As a reminder, you can view an example here again:

Person	Person 1	Person 2	Person 3
Bid	0€	1€	3.50€

In this example, Person 3 placed the highest bid. Therefore, Person 3 will receive the leadership role. The highest bid that did not win comes from Person 2 at 1€. This is the price Person 3 will pay to receive the team leader role.

So, Person 3 receives the leadership role and pays 1€. After the application phase, Person 3 will have 3.50€ - 1€ = 2.50€ (Application budget - price for the leadership role). The other participants receive their entire application budget of 3.50€ and will be the team members in part 3.

Control Questions - Application

You will only be directed to the application phase once you answer all the questions correctly.

Example 1

Person	Person 1	Person 2	Person 3
Bid	€3	0€	1€

- What role does Person 1 have? [*Team Leader, Team Member*]
- What role does Person 2 have? [*Team Leader, Team Member*]
- What role does Person 3 have? [*Team Leader, Team Member*]
- How much must be paid for the leadership role? [*Correct: 1*]
- What is the payout for Person 2 from this application phase? [*Correct: 3.50*]
- What is the payout for Person 3 from this application phase? [*Correct: 3.50*]

Example 2

Person	Person 1	Person 2	Person 3
Bid	2.50€	0€	3.50€

- What role does Person 1 have? [*Team Leader, Team Member*]
- What role does Person 2 have? [*Team Leader, Team Member*]
- What role does Person 3 have? [*Team Leader, Team Member*]
- How much must be paid for the leadership role? [*Correct: 2.50*]
- What is the payout for Person 2 from this application phase? [*Correct: 3.50*]
- What is the payout for Person 3 from this application phase? [*Correct: 1*]

Control Question - Compensation

How much does the leader receive as compensation?

- No compensation
- Definitely 0.35€
- It will be drawn: either 0.35€ or 1.75€
- Definitely 1.75€

Application

To take on the role of team leader in the third part of this experiment, you can place a bid. You will use the application budget of 3.50€ provided for this part.

As described earlier, there are two different compensations. Therefore, you will place two bids (each bid can range from 0€ to 3.50€). It will be determined randomly which bid will count for you and your group.

Consequently, it will also be randomly decided which compensation you would receive in the leadership role. Please submit your bid for both compensations.

Leadership position with Compensation A: 0.35€

You can bid between 0€ and 3.50€.

How much of your application budget would you like to bid? *[Field set to max 3.50€]*

Leadership position with Compensation B: 1.75€

You can bid between 0€ and 3.50€.

How much of your application budget would you like to bid? *[Field set to max 3.50€]*

Your Application Decision 1/2

Your bid for the leadership position with Compensation A (0.35€) was XX€. Please briefly explain why you did (or did not) apply for the leadership role.

Your Application Decision 2/2

Your bid for the leadership position with Compensation B (1.75€) was XX€. Please briefly explain why you did (or did not) apply for the leadership role.

Part 3 – Outcome of the Application

It was randomly determined that the application for the leadership position with compensation A/B of 0.35€/1.75€ is relevant for your group.

[Winner:]

Your application budget was 3.50€. You bid XX€ for this position.

[If the bid is the same as another bid:]

There is at least one other bid that is the same as yours. The draw decided that you will take the leadership role. Since your bid is as high as the highest bid that lost, you must pay your bid of XX€!

[Otherwise:]

Your bid is high enough that you will receive the leadership role. You must pay XX€!

Your payout from Part 2, the application phase, is therefore XX€.

Chats

Since you were successful and will take on a leadership role in the next round, you will have the opportunity to chat with the other two team members in your group.

You will see two chat rooms where you can communicate with the two team members. Please note that the chat rooms are separate from each other. Each team member can only see the messages you send in their respective chat, not the messages you send in the other chat to the other team member.

If Part 3 is the relevant part for your payment, you will also receive a compensation of XX€ for carrying out the leadership role.

[Loser:]

Your application budget was 3.50€. You bid XX€ for this position.

You will not be the team leader. Your payout from Part 2, the application phase, is therefore 3.50€.

Chats

Since you will take on the role of a team member in the next round of the experiment, you will have the opportunity to chat with the team leader, but not with the other team member.

After chatting with the [team members](#) / [team leader](#), you will have the opportunity to make your decision regarding group contributions.

On the next page, the chat rooms will open. Please click “Next” to proceed.

Reminder: Please note that the “Next” buttons will only appear after a certain amount of time. Do not refresh the pages during this time!

Chat

Verbleibende Zeit bis die Chaträume automatisch schließen 1:26

Ihre Position: **Teamleitung.**

Im oberen Chat können Sie mit Teammitglied2 und in dem unteren Chat mit Teammitglied3 chatten.

Chat Teammitglied2:

Chat Teammitglied3:

Figure A7: Screenshot of Team Leaders' Chat Interface

Chat

Verbleibende Zeit bis die Chaträume automatisch schließen 2:51

Ihre Position: **Teammitglied3**.

In diesem Chat können Sie mit der Teamleitung kommunizieren.

Figure A8: Screenshot of Team Members' Chat Interface

Decision on Group Contribution - Part 3

Your endowment is 3.50€. Please indicate how much of this endowment you would like to contribute to the group.

How much would you like to contribute to your group? *[Field set to max 3.50€]*

Result Part 3

You have contributed XX€ to your group.

The total group contribution is: XX€

Reminder: A random number has been added to this amount: -2, -1, 0, 1, or 2.

How much do you estimate the total contribution from the other two participants in your group to be? *[Field set to max 7]*

Questions *[Claim the Lead, 5-point Likert Scale, Strongly Disagree – Strongly Agree]*

These questions relate to your personal life. There are no right or wrong answers. To what extent do you agree with the following statements?

[Items see https://osf.io/dpqfu/?view_only=a44a9c0f56d64ad59bb72ba0cd8b4ba2 – Giessner et al. (2022)]

Questions *[Grant the Lead, 5-point Likert Scale, Strongly Disagree – Strongly Agree]*

These questions relate to your personal life. There are no right or wrong answers. To what extent do you agree with the following statements?

[Items see https://osf.io/dpqfu/?view_only=a44a9c0f56d64ad59bb72ba0cd8b4ba2 – Giessner et al. (2022)]

Your Opinion – Team Leadership Part 1

Do you think the role of team leader in Part 1, where team leaders did not receive any compensation, is more suitable for women or for men? Please indicate your answer on the slider below.

-1: The team leader position is more suitable for women

1: The team leader position is more suitable for men

Click on the blue bar to reveal the slider.



Figure A9: Sliders (initial and after choice)

Note: I use Max R. P. Grossmann's sliders, see https://gitlab.com/gr0ssmann/otree_slider

Your Estimation – Team Leadership Part 1

Please provide your own estimation. If your estimation differs by no more than 3 percentage points from the true answer, you will receive an additional 0.10€ for this answer.

What percentage of male team leaders in Part 1, where team leaders did not receive compensation, managed to convince their team members to contribute their entire base budget, i.e., 3.50€ per team member?

What percentage of female team leaders in Part 1, where team leaders did not receive compensation, managed to convince their team members to contribute their entire base budget, i.e., 3.50€ per team member?

Your Opinion – Team Leadership Compensation A (0.35€)

Do you think the role of team leader with a compensation of 0.35€ is more suitable for women or for men? Please indicate your answer on the slider below.

-1: The team leader position is more suitable for women

1: The team leader position is more suitable for men

Click on the blue bar to reveal the slider.

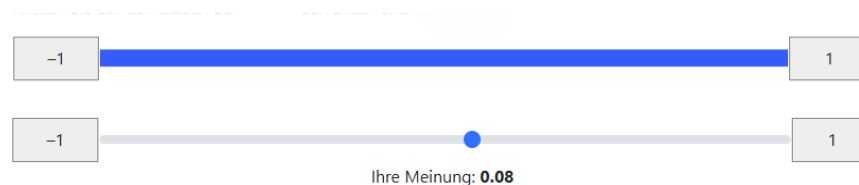


Figure A10: Sliders (initial and after choice)

Note: I use Max R. P. Grossmann's sliders, see https://gitlab.com/gr0ssmann/otree_slider

Your Estimation – Team Leadership Compensation A (0.35€)

Please provide your own estimation. If your estimation differs by no more than 3 percentage points from the true answer, you will receive an additional 0.10€ for this answer.

What percentage of male team leaders with a compensation of 0.35€ managed to convince their team members to contribute their entire base budget, i.e., 3.50€ per team member?

What percentage of female team leaders with a compensation of 0.35€ managed to convince their team members to contribute their entire base budget, i.e., 3.50€ per team member?

Your Opinion – Team Leadership Compensation B (1.75€)

Do you think the role of team leader with a compensation of 1.75€ is more suitable for women or for men?

Please indicate your answer on the slider below.

-1: The team leader position is more suitable for women

1: The team leader position is more suitable for men

Click on the blue bar to reveal the slider.



Figure A11: Sliders (initial and after choice)

Note: I use Max R. P. Grossmann's sliders, see https://gitlab.com/gr0ssmann/otree_slider

Your Estimation – Team Leadership Compensation B (1.75€)

Please provide your own estimation. If your estimation differs by no more than 3 percentage points from the true answer, you will receive an additional 0.10€ for this answer.

What percentage of male team leaders with a compensation of 1.75€ managed to convince their team members to contribute their entire base budget, i.e., 3.50€ per team member?

What percentage of female team leaders with a compensation of 1.75€ managed to convince their team members to contribute their entire base budget, i.e., 3.50€ per team member?

Payment

It will now be randomly decided which parts of the experiment will be paid out. Please click “Next” to proceed.

Your Payment

Group Contributions and Applications

The draw has determined that, in addition to the payment from Part 2, the application phase, Parts 1 / 3 of the experiment will determine your payout.

[If Part 1:]

Part 1: Your group has contributed a total of XX€. Your payout is XX€.

Part 2: XX€

[If Part 3:]

Part 3: Your group has contributed a total of XX€. [If Leader:] Additionally, you will receive a compensation of XX€. Your payout is XX€.

Urn Games

From the urn games table, the row with a guaranteed payout of XX cents was selected for the first urn game:

You chose the guaranteed payout and will thus receive XX€. // You chose the urn game. The ball you selected (was/was not) drawn in the color red/black. You will receive XX€.

From the urn games table, the row with a guaranteed payout of XX cents was selected for the second urn game:

You chose the guaranteed payout and will thus receive XX€. // You chose the urn game. The ball you selected (was/was not) drawn in the color red/black. You will receive XX€.

Your Estimation of Team Leadership Performance:**Part 1: No compensation**

XX percent of male team leaders in Part 1 managed to convince their team members to contribute their entire base budget.

[If correct:] Your answer differs by no more than 3 percentage points from the correct answer. Therefore, you will receive an additional 0.10€!

[If incorrect:] Your answer differs by more than 3 percentage points from the correct answer. Therefore, you will not receive any additional payment.

XX percent of female team leaders in Part 1 managed to convince their team members to contribute their entire base budget.

[If correct:] Your answer differs by no more than 3 percentage points from the correct answer. Therefore, you will receive an additional 0.10€!

[If incorrect:] Your answer differs by more than 3 percentage points from the correct answer. Therefore, you will not receive any additional payment.

Compensation A:

XX percent of male team leaders with a compensation of 0.35€ managed to convince their team members to contribute their entire base budget.

[If correct:] Your answer differs by no more than 3 percentage points from the correct answer. Therefore, you will receive an additional 0.10€!

[If incorrect:] Your answer differs by more than 3 percentage points from the correct answer. Therefore, you will not receive any additional payment.

XX percent of female team leaders with a compensation of 0.35€ managed to convince their team members to contribute their entire base budget.

[If correct:] Your answer differs by no more than 3 percentage points from the correct answer. Therefore, you will receive an additional 0.10€!

[If incorrect:] Your answer differs by more than 3 percentage points from the correct answer. Therefore, you will not receive any additional payment.

Compensation B:

XX percent of male team leaders with a compensation of 1.75€ managed to convince their team members to contribute their entire base budget.

[If correct:] Your answer differs by no more than 3 percentage points from the correct answer. Therefore, you will receive an additional 0.10€!

[If incorrect:] Your answer differs by more than 3 percentage points from the correct answer. Therefore, you will not receive any additional payment.

XX percent of female team leaders with a compensation of 1.75€ managed to convince their team members to contribute their entire base budget.

[If correct:] Your answer differs by no more than 3 percentage points from the correct answer. Therefore, you will receive an additional 0.10€!

[If incorrect:] Your answer differs by more than 3 percentage points from the correct answer. Therefore, you will not receive any additional payment.

Total Payment

In total, your payout is XX€.

Additionally, you will receive 1€ for your punctual appearance.

Your final payout is thus XX€.