

It's Not About the Money – Or Is It?

Stereotypes and the Gender Application Gap*

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Abstract

Despite substantial gains in women's education and labor market participation, women remain underrepresented in leadership positions, which sustains gender pay gaps at the top of the wage distribution. A key potential supply-side factor is a gender gap in applications for leadership and higher-paying roles. With salaries becoming increasingly observable at the moment of application, understanding their role in application behavior is important. In a laboratory experiment, I study the following three aspects: I i) study the role of different salary levels on the gender application gap, ii) examine underlying mechanisms and iii) test a potential solution to mitigate any salary-induced gender application gap. I find a substantial gender gap in the willingness to pay only for highly paid positions: women are less willing than men to seek these roles despite performing equally well as leaders. Higher salaries shift the perceived stereotype of leadership from female-typed to male-typed, primarily among men, which is associated with their greater willingness to lead. The tested solution, randomly assigning leadership experience, does not, on average, reduce the gender application gap, suggesting that experience alone is insufficient to 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 recent decades, accompanied by a narrowing gender earnings gap (Goldin, 2014). Yet large disparities persist in leadership positions. In 2024, women held only 34% of board seats in S&P 500 firms and a similar share across the EU (SpencerStuart, 2024; European Commission, 2025). These gaps sustain the inequality at the top of the wage distribution (Blau and Kahn, 2017) and emerge early in the career pipeline through the “broken rung,” the sharp drop in the share of women advancing from entry-level roles to first-level management (McKinsey and LeanIn.Org, 2024; Azmat et al., 2024; Benson et al., 2024; Haegele, 2025; Bircan et al., 2024). This early loss of female talent combined with a reversed gender education gap (Blau and Kahn, 2017) reduces the pool of candidates for promotion¹ and reinforces gender gaps in both representation and pay.

While much of the literature focuses on demand-side barriers and policies such as gender quotas to explain and reduce this gender gap (OECD, 2025; Bertrand et al., 2019; Azmat and Boring, 2021)², recent work highlights a critical supply-side margin: workers must first decide whether to apply before firms can act on them. Literature on this supply side observes that women are less likely to apply for leadership positions (Haegele, 2025; Hospido et al., 2022) and disproportionately target lower-paying jobs (Fluchtmann et al., 2024; Lepinteur and Nieto, 2025)³. These application patterns are particularly consequential for the gender representation in leadership in light of new pay transparency regulations, which increasingly require employers to disclose salary ranges in job advertisements (European Parliament and Council of the European Union, 2023). As expected pay becomes more observable at the moment of application, understanding its effects on application behavior becomes increasingly important.⁴ Yet it remains unknown whether and why the salary level itself creates a gender application gap for leadership positions.

This paper has three main goals: First, I aim to understand whether a large salary increase causes gender differences in the willingness to apply for a leadership position. Second, I investigate potential mechanisms underlying any salary induced gender differences in applications. Among these, I explore whether the high salary triggers the gender stereotype that a typical and successful leader is male (Dean et al., 2025; Badura et al., 2018; Koenig et al., 2011), which may discourage women from applying to leadership roles.⁵ Third, with the aim of finding a solution to mitigate the potential gender application gap, I causally study the effect of exogenous exposure to leadership experience on application behavior. 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, an aspect the solution

¹Maximizing 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).

²For example, the introduction of gender quotas has been shown to have limited effects on overall female representation (Bertrand et al., 2019; Azmat and Boring, 2021).

³Women target jobs with on average 4.5% less pay than those targeted by men. The gender differences in applied-for jobs explain 72 percent of the residual gender gap in starting wages (Fluchtmann et al., 2024).

⁴Previous studies on the effects of these new policies mainly focus on gender pay gaps and salary (re)negotiations (e.g. Roussille, 2024; Brütt and Yuan, 2024; Baker et al., 2023; Cullen and Pakzad-Hurson, 2023; Cullen, 2024; Cullen et al., 2025) rather than comparing application decisions of men and women for positions with a low and high salary.

⁵Barker and Gil (2025) investigate how stereotyping can influence compensation for women in leadership positions: due to stereotypes about women's influence on performance, other than men, high-performing women did not earn more than lower performing women.

targets.

I study these questions in a three-stage experiment which 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 via bilateral chat rooms. Leadership responsibilities in this stage are not additionally remunerated. In Stage 2, 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 and subjects indicate their willingness to pay for both positions. By exploiting the random assignment of leadership roles in Stage 1, I can also analyze the causal effect of leadership experience on the willingness to pay to attain a leadership position by gender. The laboratory setting allows me 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.⁶ In particular, 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.

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, where there is no sizable and significant gender difference in the willingness to pay.

To understand the underlying mechanism of the salary-dependent gender application gap – the second goal of this paper – I study the possibility that the salary level might signal different perceived job characteristics although the task is held constant. First, it might change the perceived responsibility leaders hold, which could materialize in gender differences in self-confidence to matter for application behavior. Second, risk attitudes potentially affect application behavior for the two positions differently if subjects perceive one of the positions or the outcome of the competition as more risky in some regards, e.g. feel tempted to or expect others to over- or under-bid or feel uncertain about others' leader quality to a different degree for the two positions. Third, subjects willingness to compete might affect application decisions differently when they believe that the high salary attracts more applicants. Fourth, beliefs about gender suitability and performance of men and women might alter application behavior.

I find no evidence for the first three mentioned mechanisms to drive the gender application gap for high salary positions. For the fourth, the beliefs of participants, the results reveal the following patterns: The mere shift in salaries changes the average perception of leadership roles from stereotypical female to stereotypical male. This shift is driven by women perceiving the low-paid position as more female and by men viewing the high-paid role as distinctly male. Women also believe that female leaders perform better in the low-salary position but not in the high-salary one, aligning their beliefs about performance with their perceptions of gender fit. Men, in contrast, express no gender-specific performance beliefs but nevertheless associate high-salary leadership with male suitability. For men, these beliefs translate into their application behavior: Those men who hold more stereotypical views about who is a suitable leader in terms of gender are also those who are more eager to become a highly-paid leader. These findings are consistent

⁶For example, Haegele (2025) does not find a gender gap in applications for women who have leadership experience. The firm setting she uses, however, does not allow her to disentangle whether these women are more similar to men or whether the experience caused the disappearance of the application gap.

with labor market traits men are praised for (Dean et al., 2025) as well as social role theory in psychology (Badura et al., 2018; Eagly, 1987), which links men to “breadwinner and higher status roles” (Eagly and Karau, 2002, p. 574). The asymmetry in stereotypes suggest that salary-related stereotype changes increase men’s willingness to become a leader rather than decreasing women’s leadership aspirations. 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 pay for the high salary leadership positions than low salary leadership positions.

The proposed solution studied in this paper – building leadership confidence through assignment to a leadership position – does not reduce the gender application gap for the high-salary role, as exogenous assignment to the leadership role in Stage 1 does not eliminate or mitigate the gender gap in the willingness to pay for the leadership position. However, for women who have been assigned to the leadership role in Stage 1, I observe a positive and significant relationship between their groups’ contribution level - a measure of team leaders’ performances - and their willingness to become a leader in the high salary condition. There is no evidence for such a relationship among male leaders.

Finally, I examine the implications of the gender application gap and study whether gender differences in leadership performance could rationalize the observed application gap. While men and women differ in their communication styles, these differences do not translate into performance disparities as measured by team contributions. Hence, the observed gender gap in applications cannot be explained by ability differences in this setting.

This study contributes to several strands of the literature. First, I provide the first causal evidence on the effects of higher salaries, holding all other job features fixed, on the gender application gap for leadership positions. This adds to evidence based on data on Danish unemployment insurance recipients by Fluchtmann et al. (2024), who show that women apply to lower-paying jobs than men but cannot disentangle the effect of wages from correlated job characteristics such as flexibility or family-friendliness. By exogenously varying the salary levels, my experiment demonstrate that the salary level itself, independent of such amenities, can *causally* discourage women (or attract men) to apply for leadership roles. My study thereby also adds to work by Coffman et al. (2024b) who study application behavior for higher-return work in male-typed domains. In their work, however, the higher rewarding jobs also come with more challenging work. My experiment allows me to study the pure salary effect on application behavior by isolating the monetary incentive from task complexity. Furthermore, because demand-side factors such as employer bias in the hiring process (Carlsson and Eriksson, 2019; Bohnet et al., 2016) or structural inflexibilities (Goldin, 2014) are absent in the laboratory setting, the results establish that wage incentives alone can generate gendered selection into leadership positions.

Second, the controlled environment further provides the opportunity to study the mechanisms underlying the effect of different salary levels on application behavior. In particular, my study allows me to shed light on the relation between perceived gender fit and salary levels of leadership positions. The literature on leadership stereotypes has shown that men are expected to be leaders (Dean et al., 2025) and that successful leaders are associated with agentic traits, such as dominance and assertiveness (Eagly and Karau, 2002;

Koenig et al., 2011; Powell et al., 2002). As these traits are typically associated with men, social role theory sees them as suitable candidates for leadership roles (Badura et al., 2018; Eagly and Karau, 2002). My study complements this literature as it shows that a mere salary difference can already trigger these differences in perceptions (especially for men), making it even more important to counteract the instilled stereotypes. Moreover, I can rule out other mechanisms which are typically discussed in the literature on the supply-side, such as the 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), and their lower social confidence, i.e. the willingness to publicly perform a task (Alan et al., 2020).

I further add to the literature on the team leading dimension of leadership which has documented a lower willingness of women to lead teams (Haegele, 2025; Born et al., 2022). In my setting, leaders hold communication and coordination power. This part of leadership is crucial 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 thereby departs from the traditional 'leading by example' framework often employed in 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 study the communication aspect of leadership and its role for the gender representation and application gap.⁷ The lack of a significant gender application gap for low salary positions shows that the leadership responsibility in form of communication and coordination is not an aspect differentially affecting men's and women's willingness to attain a leadership role.

Forth, I contribute to the mostly correlational evidence on experience and leadership development (Day, 2000; Martin et al., 2021) and on the role of prior experience in shaping gender differences in career progression (Haegele, 2025; Bircan et al., 2024). In my setting, I can exogenously vary having experience in a leadership position. Thereby, I circumvent the endogeneity problem of self-selection into leadership positions and provide insights on the causal effects of experience on application behavior. Prior experience with being a leader did not causally reduce the gender gap in the willingness to invest to attain leadership positions in my setting. Only for women who have been assigned to the leadership position and performed well the gender gap in the willingness to apply for the leadership position with high salary decreases. Experience alone might hence not suffice to reduce the gender application gap.

The remainder 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 deals with the potential solution and Section 6 lines out implications. Section 7 concludes.

⁷Eisenkopf (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.

2 Experimental Design and Procedure

2.1 Design

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 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 by 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 group, 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€. ⁸

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 the 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

⁸For 238 subjects (26%), the noise term had to be capped. 235 noise terms were capped at the maximum, 3 at the minimum contribution level.

high (1.75€, i.e., adds 50% to the endowment).⁹ I elicit subjects' bids for both positions, i.e. within subject, which resembles actual job searches in which job seekers see multiple jobs with different salary levels. It is randomly determined which bid and position is relevant for the remainder of the experiment.¹⁰ Each subject competes against the two other subjects of their Stage-2 group. 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.¹¹

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 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.¹²

2.2 Procedure

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. Sessions took on average 66 (median: 58) minutes and the average participant has earned 10.96€, including a show-up fee of 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. Further, the gender composition of the sessions varied so that the gender compositions of the groups in Stage 1 of the experiment differ. Subjects were not aware of the gender composition of their session or group.

⁹The salary cannot be used in the PGG.

¹⁰Subjects submit their bids for both positions on the same screen. See Appendix B for the exact wording.

¹¹That 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.

¹²By 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).

3 Gender Application Gap

As a first step, in Stage 2 – the application phase – I measure men's and women's willingness to become a leader in Stage 3 of the experiment. As laid out in the above I elicited their willingness to pay for both a low and a high salary position.

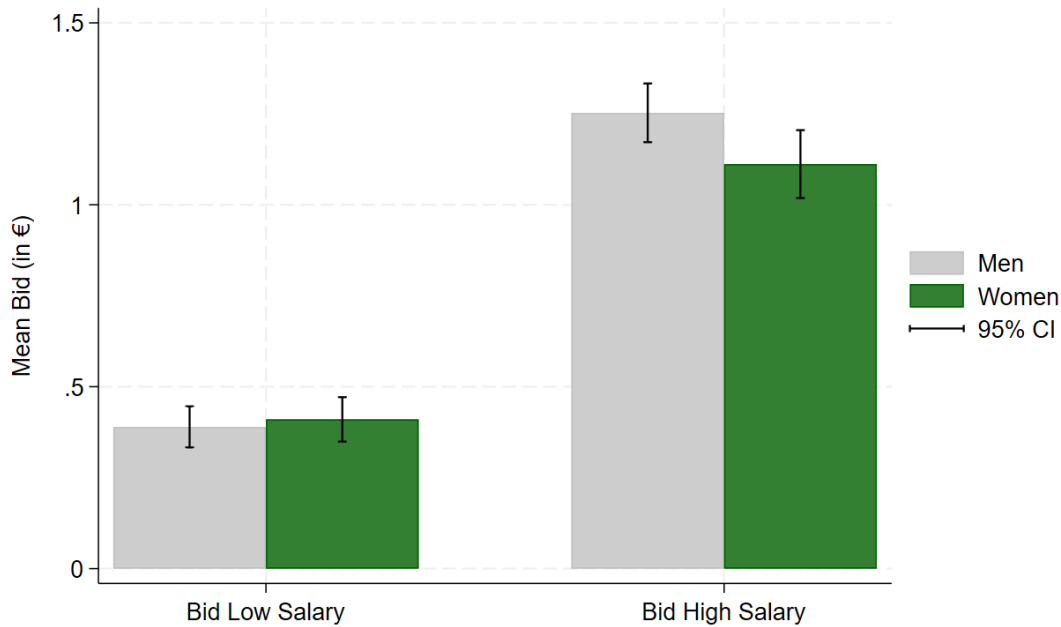


Figure 1: Mean Bids of Men and Women

Figure 1 depicts the unconditional mean bids of male and female subjects for the low (lhs) and high (rhs) salary position.¹³ For the low salary position, women (0.41€) and men (0.39€) submit very similar bids. For the high salary position, this pattern changes: women make 11% lower bids than men (1.11€ instead of 1.25€).¹⁴ 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.

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

¹³Figure A1 in the Appendix shows the distribution of bids for the low and high salary position separately for men and women.

¹⁴The 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.

position in Stage 1. X_i is a vector of control variables. 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 1.¹⁵

Table 1: Gender Application Gap

	(1) Bid	(2) Bid	(3) Bid
Female	0.0208 (0.0437)	-0.00293 (0.0533)	-0.00347 (0.0529)
High Salary	0.863*** (0.0356)	0.863*** (0.0358)	0.863*** (0.0358)
Female \times High Salary	-0.162*** (0.0514)	-0.162*** (0.0516)	-0.162*** (0.0516)
Constant	0.376*** (0.0342)	0.595** (0.283)	0.619** (0.301)
Controls	Experience	+Imbalances	All
R-squared	0.192	0.204	0.204
No. obs.	1802	1802	1802

Note: The table reports OLS regressions with the height of the submitted bids as outcome variables. Column (1) reports the pooled results controlling for having been the leader in Stage 1. Column (2) adds (seven) field of study dummies as well as (eight) occupation dummies, and the gender composition of the groups. Column (3) adds age as a control variable. Clustered standard errors at the Stage 1 group level in parentheses. * for $p < 0.10$, ** for $p < 0.05$ and *** for $p < 0.01$.

To summarize the main results up, men are more eager than women to take over leadership positions that come with large salary increases 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. So, it is not the leadership role per se that causes the application gap as there is no gender gap for the low salary position. In the following, I will investigate the underlying mechanisms which may explain why the salary increase causes a gender application gap for leadership positions.

4 Mechanisms

This section explores the underlying reason for the change in the willingness to apply for a leadership position which is induced by the increase in salary. While the two leadership positions only differ in the

¹⁵Abadie et al. (2023) suggest that clustering at the individual level would suffice for these pooled specification 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.

level of the salary for the leader¹⁶, the salary might change perceptions about the application competition or the position as I will outline in the following.

4.1 Risk Attitudes, Confidence, and the Willingness to Compete

In my setting, risk attitudes and prior confidence may differentially affect bidding behavior for the two leadership positions. First, risk attitudes may affect application behavior differently across the two positions if subjects perceive one position or the auction outcome as more risky. For example, participants may expect others to over- or underbid, or may feel uncertain about the leadership quality of potential winners. Second, gender differences in self-confidence may translate into differences in application behavior, for example if the higher salary increases the perceived level of responsibility associated with the position. This section examines (i) whether men and women differ in these dimensions and (ii) whether these factors help explain their application behavior.

Many studies stress that men are more likely to enter competition because of different preferences for competition which go 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 risk attitudes and (over)confidence (Gillen et al., 2019; van Veldhuizen, 2022).

In order to measure risk attitudes, subjects go through two similar urn gambles in the beginning of the experiment.¹⁷ These risk measures are standardized to ease comparability.

To elicit prior confidence, 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).¹⁸ 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. Prior confidence was elicited before subjects have been assigned to their roles and is thus not affected by the treatment.¹⁹

As found in many other studies, the average female participant in my study is 0.02 to 0.08 standard deviations more risk averse and 0.09 standard deviations more confident in their ability to persuade their team members compared to another participant in a leader position than the male but the mean difference is not significant at any conventional level (see Table A3 in the Appendix).

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

¹⁶And 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.

¹⁷I 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 randomized. See Appendix B for details.

¹⁸Subjects 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.

¹⁹I 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).

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).²⁰

Table 2: Risk and Confidence

	(1) Bid	(2) Bid	(3) Bid
Female	0.0215 (0.0434)	-0.00133 (0.0526)	-0.00220 (0.0522)
High Salary	0.862*** (0.0357)	0.861*** (0.0357)	0.861*** (0.0357)
Female × High Salary	-0.159*** (0.0517)	-0.158*** (0.0517)	-0.158*** (0.0517)
Risk (Instr.)	0.0470 (0.0456)	0.0537 (0.0460)	0.0546 (0.0462)
Prior Confidence (Std.)	0.000963 (0.0199)	0.000832 (0.0198)	0.000872 (0.0198)
Constant	0.376*** (0.0341)	0.588** (0.288)	0.629** (0.305)
Controls	Experience	+Imbalances	All
No. obs.	1802	1802	1802
No. of subjects	901	901	901

Note: The table reports IV regressions with the height of the submitted bids as outcome variables. Column (1) reports the pooled results controlling for having been the leader in Stage 1. Column (2) adds (seven) field of study dummies as well as (eight) occupation dummies, and the gender composition of the groups. Column (3) adds age as a control variable. 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. * for $p < 0.10$, ** for $p < 0.05$ and *** for $p < 0.01$.

Table 2 includes the instrumented risk as well as the confidence measures, following Gillen et al. (2019). The inclusion of risk attitudes and confidence does not affect the gender application gap for high salary positions much as compared to Table 1 and is still highly significant. Therefore, risk attitudes or self-confidence in leadership skills are unlikely to be crucial drivers of the gender application gap for high salary positions.

While I follow the suggested approaches in Gillen et al. (2019), the elicited risk and confidence measures might not capture the entire gender gap in the willingness to compete in my setting. These gender differences in the willingness to compete might therefore influence application behavior beyond the measured risk attitudes and self-confidence: As participants apply for the leadership position by submitting bids in an

²⁰As 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. Individual level clustered standard errors turns the previously significant ($p = 0.088$) effect of risk on applications to the low salary position insignificant ($p = 0.112$), see Table A4.

auction²¹, that is, by competing with other participants, they may expect stronger competition for the higher-salary position, i.e. the auction with the higher-valued object (Milgrom and Weber, 1982), and adjust their behavior accordingly. While this is harder to measure, I find some evidence speaking against this channel. If the gender application gap for the high salary position was driven by a gender gap in the willingness to compete, i.e. competition entry, the gender competition entry gap should be *larger* for the high salary position than for the low salary position. Table A5 in the Appendix shows a gender gap in competition entry (bid > 0) for both positions. However, this gap is *smaller* for the high salary position than for the low salary position. This suggests that the observed gender application gap is indeed a gender gap in the willingness to attain the leadership position rather than a gender gap in the willingness to compete.

4.2 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 (Dean et al., 2025; Eagly and Karau, 2002; 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. (2024a): participants indicate on sliders whether the positions appear more suitable for men (1) or women (-1).

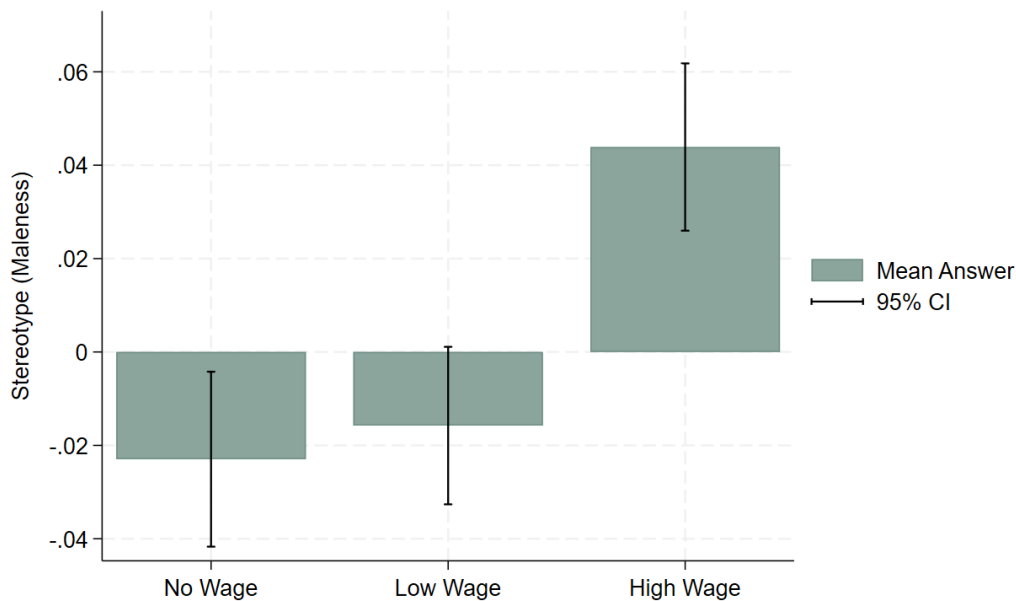


Figure 2: Stereotypical Thinking

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.

²¹In a second-price auction, behavioral differences in risk perceptions by gender have been studied, see for example Lecocq et al. (2005); Onderstal (2020); Rutström (1998) for concrete objects. Chen et al. (2013) do not find gender differences in bidding behavior for abstract objects, and if the value of the auctioned object is unknown.

As can be seen in Figure 2, 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, $p=0.067$) salary but suitable for men if there is a *high* (mean = 0.044, $p<0.01$) salary. The stated suitability for the *no* as well as the *low* salary position differs from the *high* salary position at a 1% significance level, respectively. Overall, while participants differentiate between the no and low salary positions and the high salary position with regard to their perceived gender fit, it is noteworthy that these differences are small, ranging between $-/+0.05$. Also, a majority of 64% of participants perceive men and women as equally suitable for both the low and high salary position. Nevertheless, on average, 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.

4.2.1 Gender Differences in Stereotypical Thinking and Beliefs about Performance

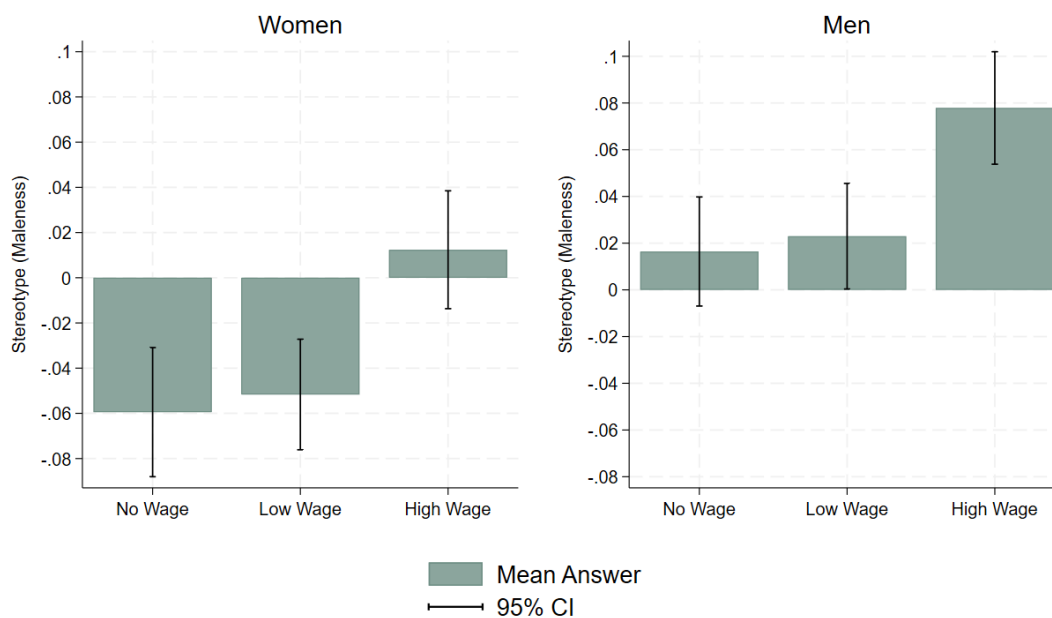


Figure 3: Stereotypical Thinking

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.

To understand the role of stereotypes better, I differentiate between men’s and women’s beliefs about suitability for the job, similar to the approach in Coffman et al. (2024a). Figure 3 shows the perceptions split by gender. Women perceive the no wage (mean = -0.059 , $p < 0.01$) and the low wage (mean = -0.052 , $p < 0.01$) condition as clearly female-typed while the high salary position is only insignificantly associated with men (mean = 0.012 , $p = 0.351$). Men’s answers differ significantly from women’s (see Table A6 in the Appendix) in that they state that all positions are more suitable for them: They perceive the no wage condition (mean = 0.016 , $p = 0.167$) as only insignificantly more suitable for their own gender. The low wage condition (mean = 0.023 , $p = 0.047$) is perceived as male-typed to a similar degree. Especially the

high wage condition (mean = 0.078, $p = 0.01$) is clearly perceived as male-typed. The overall pattern is thus driven by women who perceive the no and low wage condition to be female-typed and men who perceive the high-wage condition as more suitable for men.

Are these differences in beliefs based on differences in beliefs about performance? Beside these non-incentivized slider questions, subjects also estimate the share of top performing leaders by gender in their session and receive a bonus payment for an accurate guess.²² Table A7 in the Appendix shows the average expressed beliefs of women and men for each of the leader positions in Panels A and B, respectively, as well as the actual shares in Panel C.²³ To illustrate the expected gender difference in performance, Figure 4 depicts differences in these belief questions: positive values indicate the belief that male leaders performed better than women in the respective position and vice versa. Women believe that there are relatively more women than men among the top performers in the no and low salary position. They further believe that they do not differ significantly from men's performance in the high salary position. Comparing these beliefs of women (lhs of Figure 4) with their beliefs about gender suitability (see Figure 3), it becomes clear that women's beliefs about performance align with their stereotypical perceptions. Men do not express significant gender differences in their beliefs about top performers. This stands in contrast to their average perception of the high salary position to be male-typed (see Figure 3).

Together, these results show that a perception about the gender fit is already triggered by a mere change in the material benefits that can be derived from the task. Women believe that they are more suitable to do the low-salary leadership task, which can be defined as low-promotability task. They also (inaccurately) believe that they are better than men in fulfilling them which can rationalize their stereotypes about the gender fit. Men perceive the high-salary task as most suitable for them. In contrast to women, however, they (accurately) on average do not believe that they outperform women. Hence, they lack a performance-based rationale behind their stereotypical perceptions. These results complement findings 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). Also, social role theory which relates to men's eagerness to perform the highly paid leader position even though they do not expect a performance advantage as it sees men in the breadwinner and high status roles (Eagly and Karau, 2002).

4.2.2 Stereotypical Thinking and Application Behavior

The previous section has shown that the change in salary comes with a change in perceived fit of men and women to the low and high-salary leadership positions. In this section, I aim at understanding whether these changes in stereotypical perceptions can serve as an underlying mechanism explaining the the gender application gap for the high salary position. To this end, I investigate how the change in bids is related to the

²²These 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.

²³Men are on average more pessimistic about the leader's ability to convince their team members of maximum contributions compared to women and are therefore closer to the actual shares as displayed in Panel C. They believe that about 63 to 66 percent of leaders are top performers while women's guesses lie in a range of 70 to 72 percent.

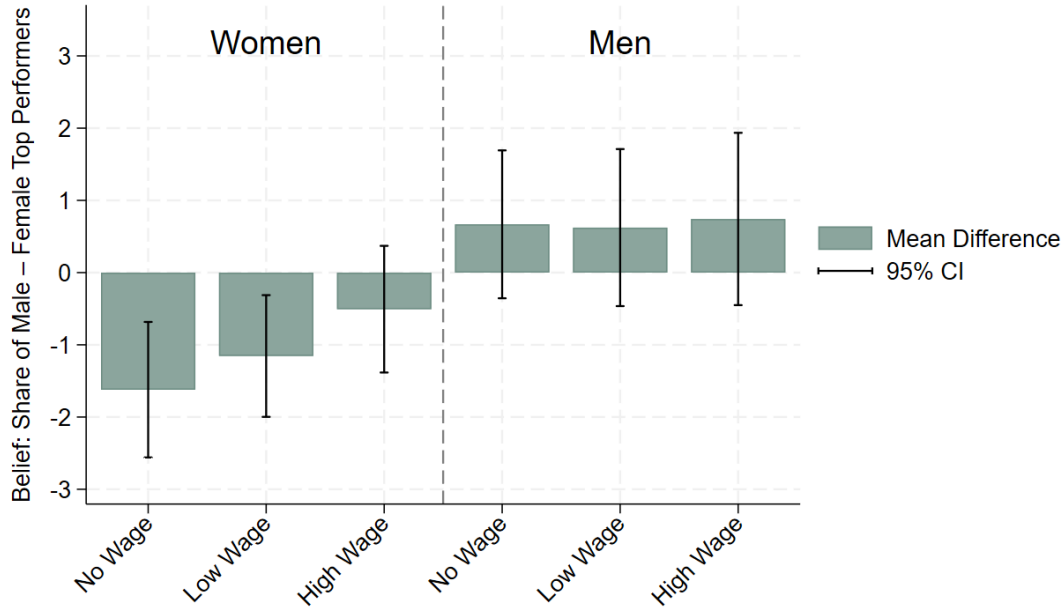


Figure 4: Beliefs about Top Performers

Note: The bars represent the difference in mean answers to the incentivized questions asking about the share of top performing leaders by gender. Positive (negative) values: belief that men (women) performed better. Confidence bars represent the 95% confidence intervals.

changes in perceived gender fit for the low and high salary position. In this analysis, I calculate the change in bids ($\Delta Bids$) 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 ($\Delta Stereot. = SliderHighS. - SliderLowS.$) 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 ($\Delta Stereot. = SliderLowS. - SliderHighS.$) 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 3, 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. 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 3). However, the relation does not differ significantly by gender (see Column 1 in Table A8 in the Appendix).²⁴

²⁴Table A8, Columns (2) to (4), in the Appendix repeats the analysis and includes the Stage 1 and 3 leader information and an

Table 3: Relationship between Bid Difference and Stereotypes

	Men (1) Δ Bids (Std.)	Women (2) Δ Bids (Std.)
Δ Stereot. (Std.)	0.121* (0.0713)	-0.00366 (0.0493)
Constant	1.780*** (0.353)	-0.364*** (0.0108)
Controls	Study & Occ.	Study & Occ.
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 (seven) field of study dummies as well as (eight) occupation dummies. 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, changing it from stereotypical female to stereotypical male. This change is mostly driven by men's perceptions, which lack a performance-based rationale. Also, especially for men, this change translates into subjects' willingness to pay for the highly paid positions. This provides evidence that the gender application gap is partially driven by those men who hold very stereotypical beliefs about the suitability of men and women to perform leadership roles.²⁵ The shift in stereotypes which comes with high salary seems to increase men's motivation to pursue the leadership position rather than that it suppresses women's interest in becoming a leader.

4.3 General willingness to Lead

Men's and women's general willingness to lead is very likely a crucial factor affecting men's and women's application behavior for the leadership positions. To understand the role of this general willingness to lead, this section will outline i) whether men and women differ in this dimension and ii) how any potential differences relate to their bidding behavior and thereby might serve as a mechanism for the gender application gap for high salary position. I will then discuss which role stereotypes might play to explain the observed patterns.

I elicited subjects' preferences to claim or grant the lead with 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 4²⁶ reports the (standardized) survey answers. The results show that men and women do not differ 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.

²⁵Table A9 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).

²⁶The sample size is reduced compared to the previous analyses because some subjects are included in the main sample whose

Table 4: Willingness to Claim & Grant the Lead

	Claim the Lead (Std.) (1)	Grant the Lead (Std.) (2)
Female	-0.278*** (0.0691)	0.0479 (0.0702)
Constant	1.762*** (0.0691)	-1.211*** (0.0702)
Controls	Study & Occ.	Study & Occ.
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 (seven) field of study dummies as well as (eight) occupation dummies. * for $p < 0.10$, ** for $p < 0.05$ and *** for $p < 0.01$.

significantly in their willingness to grant the lead (see Column (2) in Table 4). 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, as previously shown by others, for instance Born et al. (2022) and Eckel et al. (2025).

To investigate whether these gender differences in the willingness to lead are a relevant mechanism, i.e. relate to the observed gender gap in applications, I examine whether the willingness to claim the lead is related to participants' bidding behavior. Table 5 reveals that subjects who exhibit a one standard deviation stronger willingness to claim the lead (weaker willingness to grant the lead) are also those who show a 0.21€ (0.07€) larger difference 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 4). Notably, the increased difference in bids is driven by increased bids for the high salary position rather than decreased bids for the low salary position: Table A10 in the Appendix shows that the willingness to claim the lead is positively related to increased bids for both type of positions, with the bids for the high salary position increasing more. 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 A10 in the Appendix). Hence, the gender differences in the willingness to lead matter especially for the high salary position.

This asymmetry opens the question why the general willingness to lead matters for the high-salary leadership position but less for the low-salary leadership position. One potential explanation is related to the shift in stereotypes: participants perceive the high-salary position as male-typed whereas the low-salary position is perceived as female-typed. High salaries may support the societal and internalized norms about leadership positions and leaders. Therefore, participants might only perceive the high-salary but not the low-

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.

Table 5: Bidding Behavior and the Willingness to Lead

	(1)	(2)	(3)
	Δ Bids (Std.)	Δ Bids (Std.)	Δ Bids (Std.)
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 \times Claim the Lead (Std.)		0.0725 (0.0617)	
Female \times Grant the Lead (Std.)			0.0629 (0.0670)
Constant	-0.630*** (0.102)	-0.615*** (0.109)	-0.271*** (0.0975)
Controls	Study & Occ.	Study & Occ.	Study & Occ.
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 (seven) field of study dummies as well as (eight) occupation dummies. * for $p < 0.10$, ** for $p < 0.05$ and *** for $p < 0.01$.

salary position as a conventional leadership position so that only for these positions their general willingness to lead matters for application behavior. The stereotypical perceptions of suitable leaders seem to especially attract men to seek those high-salary leadership roles.

5 Experience as Solution?

The results show a gender application gap for the high salary position in which women are less willing to attain a leadership position than men. This gap comes with a shift in stereotypes changing the perception of the role from being female- to male-typed. A potential solution to mitigate this gap might be experience. Experience could be especially helpful for women as they tend to have lower self-confidence than men in professional settings (Exley and Kessler, 2022; Coffman et al., 2024b). Also, Haegele (2025) shows that experienced women do not differ in their application behavior for men in her setting, raising the question whether experience can causally increase the willingness to become a leader.

Table 6 shows the estimates of being a leader on application behavior.²⁷ Note that the *Leader Experience*

²⁷For completeness, Table A11 in the Appendix reports the results without any controls and with the complete set of controls including age as an additional control variable. The results are similar.

Table 6: 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 × High Salary	-0.162*** (0.0516)		
Leader Experience	0.0333 (0.0515)	0.0472 (0.0873)	-0.0119 (0.0570)
Female × Leader Experience		0.0172 (0.135)	0.0443 (0.0854)
Constant	0.595** (0.283)	1.468*** (0.285)	0.578* (0.307)
Controls	Imbalances	Imbalances	Imbalances
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 (seven) field of study dummies as well as (eight) occupation dummies, and the gender composition of the groups. * for $p < 0.10$, ** for $p < 0.05$ and *** for $p < 0.01$.

dummy estimates the effect of having been assigned to the leader position in Stage 1. As this coefficient and the interaction with the *Female* dummy are insignificant and small there is neither evidence for the leadership experience to affect the bidding behavior and thus the willingness to become a leader on average nor evidence for gender differences in this effect. In Section 6.2, I discuss heterogeneity with respect to the type of experience leaders make.

Exposing women and men to making the experience themselves hence did not causally reduce the gender application gap. Experience alone does not seem to be enough to work against the instilled stereotypes.

6 Implications

The previous analyses have shown that there is a gender application gap for high salary positions only. At the same time, the data shows a shift in stereotypes from the leadership position to be perceived as female-typed when it comes with low salary and male-typed when it comes with high salary.

To understand the implications of this gap, it is important to understand whether the gender gap in the willingness to attain a leadership position and the shift in stereotypes reflects true performance differences between male and female leaders – which could potentially justify men's sorting into the high-salary lead-

ership position and render the need to find a solution less relevant. Firstly, 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. And secondly, if there were gender differences in performance, a gender gap in applications could be considered as efficient sorting into positions. In my setting, I define a leader's performance by the groups' overall contribution.²⁸ It is the goal of the leader to persuade 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. Leaders have two leadership strategies which they can use to increase the groups' overall contribution: their own contribution and their effort in communication and coordination. The following analyses will focus on the Stage-1 leaders as they have been randomly assigned to their leadership position, so that a leader's performance can be measured without selection bias.

6.1 Leadership Strategies: Own Contribution & Communication Effort

A key factor in assessing leadership performance is the leader's own behavior, measured by their individual contributions. Leaders contribute on average 3.00€ (std.dev.= 1.08) of the maximum amount of 3.50€ to the public good. As shown in Table 7 in Column (1), female leaders tend to contribute 0.22€ more to the public good game than their male counterparts (not significant). Leaders' contribution level does not differ significantly from their team members' (see Table A13 in the Appendix, Column (1)).

The second factor of leadership performance is the exerted effort in communication. In each chat room in Stage 1 of the experiment, participants exchange on average eight messages with an average length of six words. The average participant writes five (median = 5, max = 26, std.dev. = 3) messages and an average of 30 (median = 22, max = 156, std.dev.= 24) words in total.²⁹ Table A13 in the Appendix shows that leaders write significantly more words and messages than team members. To be precise, team leaders send on average twice as many messages than team members (raw means: leaders: 8.13 messages, members: 3.87 messages) and almost three times as many words compared to their team members (raw means: leaders: 52.36 words, members: 18.44 words). The average team leader hence shows higher communication effort than an average team member, which also goes beyond the increased effort induced by the experimental design (having two chat rooms to deal with).³⁰ When focusing on the sub-sample of leaders, an interesting distinction emerges: female leaders write eight words and one message less than male leaders (see Table 7, Columns (2) and (3), respectively). This difference is highly significant. Men and women hence do not seem to differ in their contribution levels as leaders but they differ in their communication strategies.³¹

To understand how beneficial the (different) leadership strategies of men and women in form of their own

²⁸An alternative approach would be to study leaders' earnings. Table A12 in the Appendix shows that male and female leaders do not differ in their earnings received through the public good game. Also, participants do not know about their earnings until the end of the experiment. They only receive the noisy feedback about group contributions.

²⁹In Stage 3, they also exchange on average eight messages (both high and low salary). Messages in low-salary (high salary) groups are on average five (six) words long, with the difference being statistically significant (t-test, $p = 0.0262$). Participants in both low- and high-salary groups write on average 5 messages (std.dev. = 3) and an average of 30 (std.dev. = 26 (low); st.dev. = 27 (high)) words in total, with no significant differences (messages: t-test, $p = 0.3767$; words: t-test, $p = 0.6814$)

³⁰This pattern is also observed for leaders in Stage 3, see Table A14 in the Appendix.

³¹This pattern also holds for leaders in Stage 3 who applied to become the leader, with some coefficients turning insignificant. This is potentially caused by the smaller sample. See Table A15 in the Appendix for these results.

Table 7: Leadership Strategies

	(1) TL Contribution	(2) #words	(3) #messages
Female	0.217 (0.134)	-8.088*** (2.925)	-1.290*** (0.412)
Constant	2.958*** (0.224)	48.04*** (4.766)	7.426*** (0.668)
Controls	Imbalances	Imbalances	Imbalances
R-squared	0.0415	0.0995	0.0717
No. obs.	301	301	301

Note: The table reports OLS regressions with the leader's contribution level as outcome variable in Column(1), a leader's total number of words sent in the chat rooms in Stage1 as outcome variable in Column (2) and the number of messages sent by an leader in Column (3). Robust errors in parentheses. All specifications control for (seven) field of study dummies as well as (eight) occupation dummies, and the gender of team members. * for $p < 0.10$, ** for $p < 0.05$ and *** for $p < 0.01$.

contribution and communication effort are for their final performance, I regress the total group contribution on the leaders' own contributions and the measures of communication effort. The results of this analysis, which is again restricted to the sample of Stage-1 leaders, can be found in Table 8. Column (1) in Table 8 shows that there is no significant gender gap in performance when controlling for the leadership strategies. As team leaders' contributions also count towards the team's total contribution, it is not surprising to find a positive, strong and highly significant ($p < 0.01$) relation between team leaders' contributions and the performance of the team. Interestingly, an increase in leaders' own contributions by 1€ is related to an increase in the total contribution of the team by 1.29€ (see Column (1) in Table 8), i.e. by more than 1€.³² This indicates that the strategy to use the leader's own contribution to incentivize team members' contributions seems to be successful - a result confirming many other studies on this relationship (see e.g., Fischbacher et al., 2001; Fehr and Gächter, 2000; Gächter et al., 2012). As team members can only learn about team leaders' contributions in the chat rooms, leaders use statements about their own contributions as a tool to convince their team members.³³ This strategy seems to be especially beneficial for women (see Column (2) in Table 8): an increase in the contribution of a female leader increases the total group contribution by 1,75€ (35%) compared to 1,04€ (15%) for male leaders (see Column (3) in Table 8). The second leadership strategy (communication effort) as measured by the number of sent words and messages does neither have large nor robust significant effects on overall team performance.³⁴

These results allow for the conclusion that the content of the messages is more important than the pure effort signal as measured by the quantity of messages and words. Both men and women use (statements about) their own contributions as a successful leader strategy to increase the team's overall performance.

³²See Figure A2 in the Appendix for an overview about distributions of the team members' contributions in a group led by a man or a woman in all three Stages. Kolmogorov–Smirnov tests could not reject equality of distributions between team members' contributions in male or female lead groups in Stage 1 ($p = 0.798$) or Stage 3 for the high salary position ($p = 0.811$) or the low-salary position ($p = 0.979$).

³³According to the chat protocols, all team leaders in Stage 1 and Stage 3 discuss their contribution levels.

³⁴For Stage 3 leaders, I observe the same pattern with own contributions being over-proportionally related to overall group contribution and communication effort not being significantly related to group contributions. See Table A16 in the Appendix.

Table 8: Leadership Strategies and Team Performance

	All (1) Total Group Contr.	Women (2) Total Group Contr.	Men (3) Total Group Contr.
Female	-0.176 (0.214)		
TL Contribution	1.292*** (0.113)	1.745*** (0.205)	1.038*** (0.114)
#words	0.00811* (0.00421)	0.00565 (0.00594)	0.00771 (0.00580)
#messages	-0.0349 (0.0331)	-0.0353 (0.0511)	-0.0728* (0.0420)
Constant	6.526*** (0.557)	5.001*** (0.768)	6.887*** (0.530)
Controls	Imbalances	Imbalances	Imbalances
R-squared	0.421	0.558	0.394
No. obs.	301	154	147

Note: The table reports OLS regressions with the the groups overall contribution level as outcome variable. The sample is restricted to Stage-1 leaders. Robust standard errors in parentheses. All specifications control for (seven) field of study dummies as well as (eight) occupation dummies and team members' gender. * for $p < 0.10$, ** for $p < 0.05$ and *** for $p < 0.01$.

Women use fewer messages than men but with no significant (difference in the) effect on the teams' performances, see Column (1) in Table 8.

It can thus be concluded that neither leaders who were randomly selected for leadership (nor those who self-selected into it in Stage 3) show a significant gender gap in performance. Hence, there is no evidence for the gender application gap to reflect true performance differences.

6.2 Performance and Application Behavior

While men and women perform equally well if being assigned to the leader position and the assignment of the leadership role per se did not reduce the gender application gap (see Section 3), it is conceivable that women and men react differently to their experience and the feedback they receive about the team performance under their leadership. In order to study this, I analyze leaders' submitted bids conditional on their performance, i.e. their group's total contribution. While I acknowledge that this regression has no clean causal interpretation as team performance is endogenous, it is instructive whether the association between realized team performance in Stage 1 and bids for the leadership position in Stage 3 differ between men and women.³⁵

³⁵Due to an unexpectedly high number of groups who contributed the maximum amount of 10.50€ many noise terms had to be capped: For 238 subjects (26%), the noise term had to be capped. 235 noise terms were capped at the maximum, 3 at the minimum contribution level. In consequence, the feedback is not random anymore. The non-randomness of the noise term hinders its use as

Table 9: Gender Application Gap of Stage-1-Leaders conditional on Performance

	(1) Bid	(2) Bid High S.	(3) Bid Low S.
Female	0.0396 (0.0717)	-1.085*** (0.410)	-0.133 (0.234)
High Salary	0.900*** (0.0525)		
Female × High Salary	-0.183** (0.0877)		
Total Group Contribution	0.0321** (0.0159)	-0.0172 (0.0324)	0.0137 (0.0183)
Female × Total Group Contribution		0.108** (0.0460)	0.0192 (0.0282)
Constant	0.601*** (0.204)	1.775*** (0.352)	0.822*** (0.177)
Controls	Imbalances	Imbalances	Imbalances
R-squared	0.285	0.137	0.0806
No. obs.	602	301	301

Note: The table reports OLS regressions with the height of the submitted bids as outcome variables. The sample is restricted to Stage-1 leaders. 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 participant level in parentheses. All specifications control for (seven) field of study dummies as well as (eight) occupation dummies, and the gender of team members. * for $p < 0.10$, ** for $p < 0.05$ and *** for $p < 0.01$.

Table 9 shows the regression results for the pooled specification in Column (1), for the high and low salary bids in Column (2) and (3), respectively. An increase in the group’s overall contribution is associated with a 0.03€ increase in bids on average. This is driven by the bids of women for the highly-paid leader position: an increase in women’s performance by 1€ is related to a decrease of the gender application gap by 0.11€, i.e. 10%. Hence, we do see a narrowing gender application gap for high performing women. For men, performance is not significantly related to their bidding behavior. I further do not find evidence for a significant relationship between leader performance and the willingness to attain the low salary leader position.

Although the data is only of descriptive nature, it is noteworthy that for women who have been assigned to the leadership position and perform well, the gender application gap decreases. For those Stage-1-leaders who achieved the maximum performance (81 women and 76 men), I even do not observe a significant gender application gap, see Table A17 in the Appendix. As performance was not randomized, it remains an open question whether this relation is causal or whether high performing women are just more eager to become a leader, regardless of initial experience. Nevertheless, my results match the findings of Coffman

an instrumental variable and thereby also a causal interpretation.

et al. (2024a): If women perceive the Stage 1 position as stereotypical female while men do not assign a significant and certain gender fit to it on average³⁶, female Stage 1 leaders hence collect first experience in a gender-congruent field and might update their beliefs about their performance and leadership skills more strongly than men. This could potentially rationalize why I find the positive association of positive experience and application behavior for women only.

7 Conclusion

New pay transparency regulations require employers to disclose salary ranges in job advertisement (European Commission, 2025), making the salary observable already at the moment of application. This study investigates how different salary levels affect the willingness to apply for leadership positions by gender. To answer this question, I run a laboratory experiment which allows me to examine mechanisms underlying the salary-induced gender application gap, and to study a potential solution – building leadership confidence by being assigned to a leadership position.

The findings reveal that a gender application gap for leadership positions only emerges for positions that come with large salary increases but not for low salaries. Women are less willing to apply compared to men for 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 more male stereotyped. Especially men perceive the high salary position as stereotypical male and their bidding behavior is correlated with their stereotypical perceptions about leadership. This asymmetry suggests that the salary-related stereotype changes increase men's willingness to become a leader rather than it decreases women's leadership aspirations. 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 positions? Reducing pay for women would not only increase gender pay differences, but my results also suggest that such a policy is misguided. 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. 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 seems to work only to a limited extent in my setting, namely for high-performing women who might have had stronger leadership ambitions regardless of exposure to experience. Experience alone does hence 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

³⁶See Section 4.2 for a detailed discussion about perceived stereotypes.

whether providing performance signals about women in highly paid leadership positions encourages women to apply. My study suggests that it might be promising as women seem to rationalize their stereotypical perceptions of leadership with an expected worse performance compared to men. At the same time, my study suggests that these performance signals might not be helpful to nudge men to adapt their stereotypical beliefs about leadership as they express these stereotypical views unrelated to their performance expectations.

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. The results of this study highlight that such efforts are critical for achieving gender balance in leadership positions.

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A Appendix - Figures and Tables

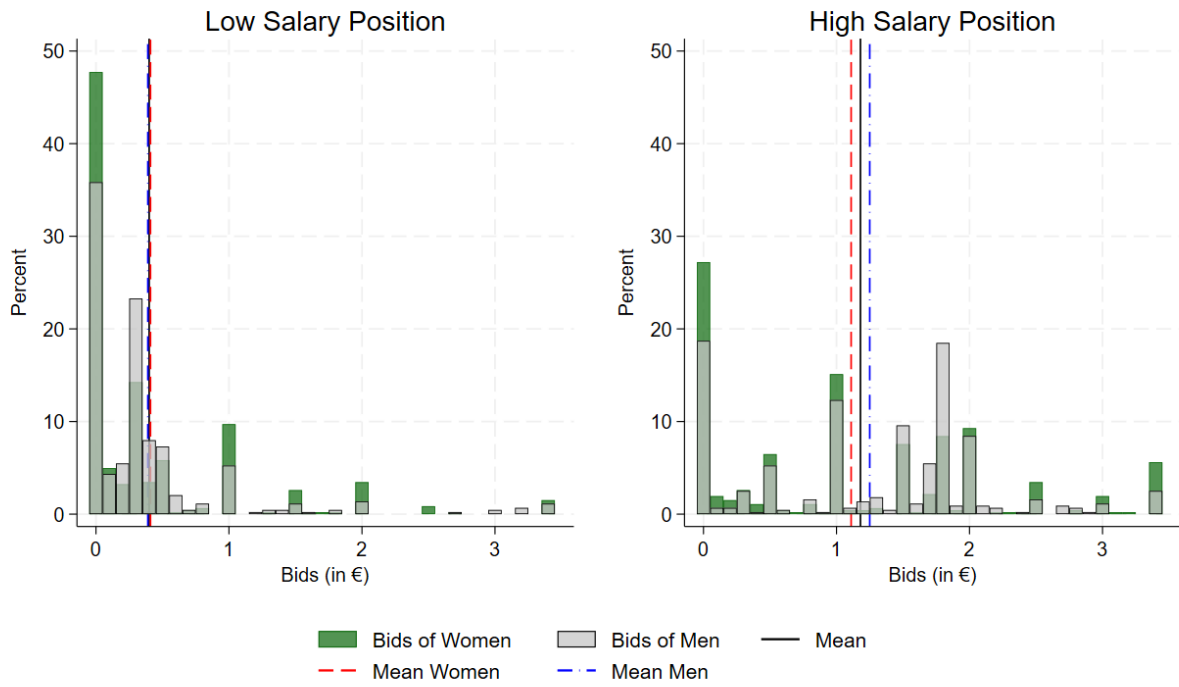


Figure A1: Distribution of Bids



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)	-0.185** (0.0863)	-0.00373 (0.0615)
High Salary	0.863*** (0.0339)		
Female × High Salary	-0.162*** (0.0509)		
Leader Experience	0.0333 (0.0501)	0.0472 (0.0872)	-0.0119 (0.0590)
Female × Leader Experience		0.0172 (0.133)	0.0443 (0.0905)
Constant	0.595** (0.282)	1.468*** (0.282)	0.578* (0.305)
R-squared	0.204	0.0275	0.0151
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 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 $p < 0.01$.

Table A4: 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 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 A5: Gender Gaps in the Extensive Margin

	(1) Apply	(2) Apply High S.	(3) Apply Low S.
Female	-0.133*** (0.0366)	-0.0882** (0.0383)	-0.119*** (0.0449)
High Salary	0.167*** (0.0182)		
Female \times High Salary	0.0385 (0.0267)		
Leader Experience	0.0517* (0.0280)	0.0690* (0.0365)	0.0637 (0.0475)
Female \times Leader Experience		-0.0238 (0.0594)	-0.0333 (0.0676)
Constant	0.736*** (0.168)	1.036*** (0.0862)	0.608* (0.317)
R-squared	0.0736	0.0305	0.0465
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 A6: 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 A7: Beliefs about Top Performers

<i>Panel A: Women's Beliefs about Top Performers</i>			
	(1) % of female leaders	(2) % of male leaders	t-test $\Delta((2) - (1)) = 0$
Stage 1	71.92%	70.30%	$p < 0.01$
Low Salary	70.99%	69.84%	$p < 0.01$
High Salary	71.70%	71.19%	$p = 0.2568$
<i>Panel B: Men's Beliefs about Top Performers</i>			
	(1) % of female leaders	(2) % of male leaders	t-test $\Delta((2) - (1)) = 0$
Stage 1	64.03%	64.70%	$p = 0.2002$
Low Salary	63.32%	63.94%	$p = 0.2608$
High Salary	64.81%	65.55%	$p = 0.220$
<i>Panel C: Actual Shares</i>			
	(1) % of female leaders	(2) % of male leaders	t-test $\Delta((2) - (1)) = 0$
Stage 1	56.49%	63.95%	$p = 0.1881$
Low Salary	51.81%	50%	$p = 0.8178$
High Salary	59.38%	58.33%	$p = 0.9072$

Note: The table reports average beliefs about the gender share of top performers in Stage 1 and Stage 3. Top performers are defined as leaders whose team members contribute the maximum amount of 3.50€ each. Panel A shows the beliefs of female participants, panel B the beliefs of male participants. Panel C shows the share of female and male leaders across all sessions who achieved maximum contributions of their team members. Column (3) reports p-values of a paired t-test.

Table A8: Relationship Bid Differences and Stereotypes

	All (1)	All (2)	Men (3)	Women (4)
Δ Stereot. (Std.)	0.122* (0.0706)	0.121* (0.0726)	0.118 (0.0721)	0.0191 (0.0485)
Female	-0.217*** (0.0674)	-0.274*** (0.0877)		
Female \times Δ Stereot. (Std.)	-0.130 (0.0854)	-0.108 (0.0865)		
Constant	-0.147** (0.0683)	-0.371 (0.248)	1.594*** (0.410)	-0.793*** (0.235)
Controls	No	Yes	Yes	Yes
R-squared	0.0336	0.0868	0.0808	0.0963
No. obs.	871	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. Column (1): Clustered standard errors at the Stage-1-group level in parentheses. Columns (2) – (4): clustered standard errors at the participant level in parentheses. All specifications control for field of study and the occupation. Additional controls include: 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 (3) shows the results for men only, Column (4) restricts the sample size to female participants. * for $p < 0.10$, ** for $p < 0.05$ and *** for $p < 0.01$.

Table A9: Relationship Actual Bids and Stereotypes

	All (1) Bid High S.	Men (2) Bid High S.	Women (3) Bid High S.	All (4) Bid Low S.	Men (5) Bid Low S.	Women (6) 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 A10: Willingness to Lead (Separate Bids)

	All (1) Bid High S.	Men (2) Bid High S.	Women (3) Bid High S.	All (4) Bid Low S.	Men (5) Bid Low S.	Women (6) 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 $p < 0.01$.

Table A11: Gender Application Gap (Different Controls)

	(1)	(2)	(3)	(4)	(5)	(6)
	Bid	Bid High S.	Bid Low S.	Bid	Bid High S.	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) and (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 A12: Leaders' Payoffs

	Stage 1 (1)	High Salary (2)	Low Salary (3)
Female	-0.175 (0.113)	-0.182 (0.159)	-0.219 (0.190)
Constant	5.782*** (0.193)	3.500*** (0.255)	5.972*** (0.348)
R-squared	0.0560	0.143	0.0869
No. obs.	301	124	165

Note: The table reports OLS regressions with the team leaders' payoffs (without salary) as outcome variables. Column (1) refers to Stage 1 leaders, Column (2) to leaders in the high salary position and Column (3) 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 A13: Leadership Strategies

	(1) Contribution	(2) #words	(3) #messages
Female	0.353*** (0.111)	-2.912** (1.399)	-0.199 (0.182)
Leader Experience	0.207 (0.129)	36.97*** (2.254)	4.631*** (0.304)
Female × Leader Experience	-0.133 (0.156)	-4.815 (3.096)	-0.727* (0.420)
Constant	3.147*** (0.243)	4.632 (5.218)	2.124*** (0.456)
R-squared	0.0417	0.463	0.417
No. obs.	901	892	892

Note: The table reports OLS regressions with the individual’s contribution level as outcome variable in Column(1), an individual’s total number of words sent in the chat rooms in Stage1 as outcome variable in Column (2) and the number of messages sent by an individual in Column (3). Clustered standard errors at the Stage-1 group level (Column (1)) / chat room level (Columns (2) – (3)) 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 A14: Leadership Strategies Stage 3

	High Salary			Low Salary		
	(1) Contribution	(2) #words	(3) #messages	(4) Contribution	(5) #words	(6) #messages
Female	0.221 (0.168)	-4.049* (2.210)	-0.257 (0.324)	0.277* (0.154)	1.738 (1.871)	0.106 (0.257)
Stage 3 Leader	-0.0641 (0.185)	39.44*** (4.987)	4.239*** (0.493)	0.227 (0.187)	36.61*** (3.066)	5.085*** (0.391)
Female × Stage 3 Leader	0.111 (0.230)	-5.449 (5.897)	-0.268 (0.636)	-0.0468 (0.233)	-3.983 (4.767)	-0.978* (0.539)
Constant	3.534*** (0.277)	-8.196 (11.77)	1.943*** (0.613)	3.160*** (0.261)	-3.171 (5.080)	-0.911 (0.585)
R-squared	0.0471	0.416	0.392	0.0911	0.425	0.454
No. obs.	379	376	376	496	493	493

Note: The table reports OLS regressions with the individual’s contribution level as outcome variable in Columns (1) and (4), an individual’s total number of words sent in the chat rooms as outcome variable in Column (2) and Column (5) and the number of messages sent by an individual in Column (3) and Column (6). Clustered standard errors at the Stage-3 group level (Columns (1) and (3)) / chat room level (Columns (2), (4), (5) and (6)) 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 A15: Leadership Strategies Stage 3 (Only TL)

	High Salary			Low Salary		
	(1) TL Contr.	(2) #words	(3) #messages	(4) TL Contr.	(5) #words	(6) #messages
Female	0.318 (0.203)	-9.968* (5.792)	-0.754 (0.604)	0.339 (0.207)	-1.884 (4.781)	-1.140** (0.542)
Constant	3.986*** (0.193)	31.70*** (11.97)	7.326*** (0.751)	3.098*** (0.349)	31.63*** (8.017)	4.487*** (1.042)
R-squared	0.172	0.135	0.0923	0.107	0.0827	0.0874
No. obs.	124	124	124	165	164	164

Note: The table reports OLS regressions with the leader’s contribution level as outcome variable in Column(1) and (4), a leader’s total number of words sent in the chat rooms in Stage 3 as outcome variable in Columns (2) and (5) and the number of messages sent by an leader in Column (3) and (6). Robust errors in parentheses. All specifications control for field of study, occupation, the gender of team members. * for p < 0.10, ** for p < 0.05 and *** for p < 0.01.

Table A16: Leadership Strategies and Team Performance (Stage 3)

	High Salary			Low Salary		
	(1)	(2)	(3)	(4)	(5)	(6)
Female	-0.175 (0.337)			-0.142 (0.370)		
TL Contr.	1.460*** (0.171)	1.173*** (0.357)	1.484*** (0.206)	1.297*** (0.161)	1.707*** (0.256)	1.100*** (0.216)
#words	0.00234 (0.00427)	0.00868 (0.0105)	0.000627 (0.00698)	-0.00483 (0.00575)	-0.00802 (0.00700)	-0.00503 (0.0120)
#messages	-0.00876 (0.0652)	-0.152 (0.157)	0.0395 (0.0861)	0.0838 (0.0510)	0.0179 (0.0695)	0.125 (0.0853)
Constant	2.140** (0.979)	6.312*** (1.658)	1.403 (0.946)	6.844*** (0.861)	6.545*** (1.096)	2.366 (3.310)
Sample	All	Women	Men	All	Women	Men
R-squared	0.527	0.420	0.742	0.437	0.565	0.454
No. obs.	124	64	60	164	83	81

Note: The table reports OLS regressions with the the groups overall contribution level as outcome variable. The sample is restricted to Stage-3 leaders. Robust standard errors in parentheses. All specifications control for field of study, occupation, and team members’ gender. * for p < 0.10, ** for p < 0.05 and *** for p < 0.01.

Table A17: Gender Application Gap for High Performing Stage-1-Leaders

	(1) Bid High S.	(2) Bid Low S.
Female	0.0288 (0.156)	0.0195 (0.117)
Constant	1.759*** (0.268)	1.140*** (0.223)
R-squared	0.200	0.0940
No. obs.	157	157

Note: The table reports an OLS regression with the height of the submitted bids as outcome variables. Column (1) reports the results for the high salary position, Column (2) for the low salary position. The sample is restricted to Stage-1-leaders whose groups have contributed the maximum amount of 10.50€. Robust standard errors in parentheses. * 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€³⁷ 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.)

³⁷It 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:

Income from part B) = $0.5 \cdot$ 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):

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€ – your group contribution) + (0.5 · 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:

Chat Teammitglied3:

Figure A5: Screenshot of Team Leaders' Chat Interface

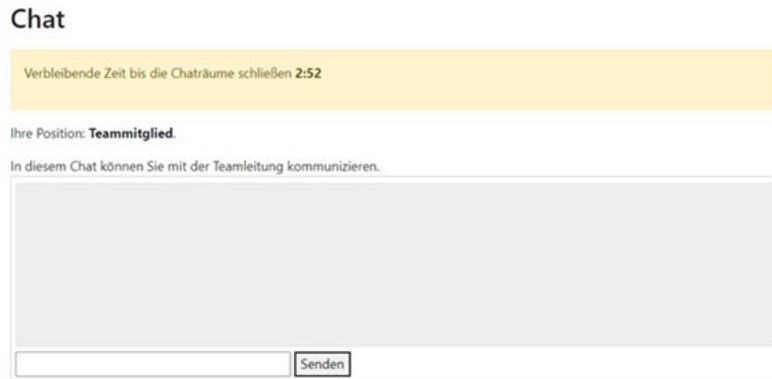


Figure A6: Screenshot of Team Members' Chat Interface

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

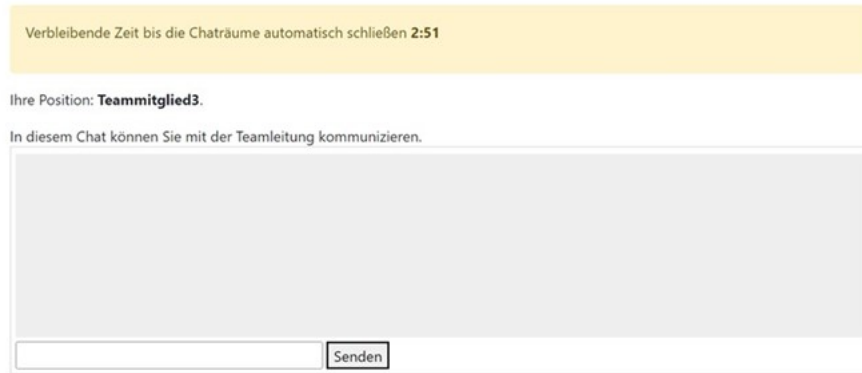


Figure A8: Screenshot of Team Members' Chat Interface

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.

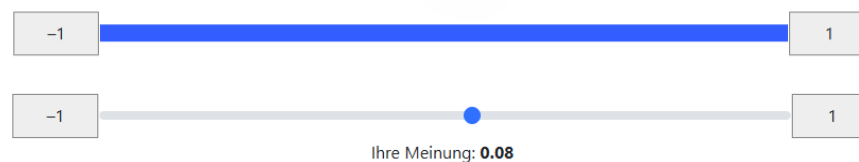


Figure A11: Sliders (initial and after choice)

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€.