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Gender Differences in Dishonesty Disappear When Leaders Make Decisions on Behalf of Their Team

Abstract

Leaders often face a dilemma between ethical considerations and financial gains. We experimentally study such a dilemma where leaders can benefit their teams at the expense of moral costs. Given the question whether gender diversity in leadership can enhance ethical behavior, our study focuses on examining potential gender differences. Specifically, we analyze the stability of individual dishonesty preferences after subjects assume leadership roles and have to make reporting decisions on behalf of their team. In our lab experiment, we measure, first, individual dishonesty preferences and, second, leaders' reporting decisions for a team by using outcome-reporting games. We focus on an endogenous leadership setting, where subjects can apply for leadership. Women have less pronounced dishonesty preferences than men, but increase dishonesty as leaders. The increase disappears when the promotion procedure changes and leadership is randomly assigned. A follow-up study reveals that women leaders behave dishonestly when they believe their team members prefer dishonesty.

JEL-Codes: C910, H260, J160.

Keywords: leadership, decisions for others, lab experiment, gender differences, dishonesty.

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1 Introduction

Leaders are facing pressing global challenges, such as climate change, health crises, and inclusive growth, which demand ethical decisions. Higher ethical conduct of leaders can foster a culture of honesty, reciprocity, and less toxic competition among co-workers within companies, leading to positive social and economic outcomes (d'Adda et al., 2017; Alan et al., 2022). Despite the demand for ethical decision-making, women continue to be underrepresented in leadership positions, particularly in sectors where ethical conduct is paramount (European Institute for Gender Equality, 2012; Gobillon and Roux, 2015; Fernandez-Mateo and Fernandez, 2016; Flabbi et al., 2019; Zenger and Folkman, 2019). Consequently, it is imperative to investigate whether having more women in leadership positions could be a potential solution to promote ethical decision-making (United Nations, 2019).

Indeed, empirical findings, including quasi-experimental evidence from affirmative-action policies, have shown that women in leadership positions can contribute to ethical decision-making, e.g., reducing corruption and increasing the provision of public goods in the political domain (Chattopadhyay and Duflo, 2004; Swamy et al., 2001), increasing social responsibility ratings, and showing greater concern for workers' vulnerability to unemployment risk in the business domain (Bear et al., 2010; Matsa and Miller, 2013). Despite this first empirical evidence, we lack *basic* causal knowledge on the role of gender in leaders' ethical decision-making.

Since leadership involves multiple duties, such as motivating team members (Arbak and Villeval, 2013; Meidinger and Villeval, 2002) and promoting employees, this paper delves into a crucial characteristic of many leadership decisions. We focus on the aspect of making ethical decisions when decisions are made not only for oneself, but also have consequences for others. Our primary goal is to examine gender differences and, specifically, whether women leaders continue to display greater ethical behavior than men after assuming leadership. We focus on honesty, a prerequisite for trustworthiness, as a core ethical value in business (Schwartz, 2005) and politics (Caselli and Morelli, 2004). There are two key motivations for behaving dishonestly as a leader. First, leaders benefit personally since they are typically compensated and promoted based on their performance. Thus, they have the incentive to misreport outcomes, particularly to the entities relevant to their performance evaluation (Burns and Kedia, 2006; Necker and Paetzel, 2022). Second, leaders' decisions impact the payoffs of stakeholders, e.g., managers' shareholders or politicians' staff members (Berman et al., 1999). Since leaders are, at least partially, evaluated based on the satisfaction of stakeholders' needs and aspirations, beliefs about stakeholders' preferences may shape leaders' decisions. The payoff externalities of leadership decisions indicate the potential role of social preferences and norms for decision-making.

To answer our research question on gender differences in the stability of (dis)honest behavior in leadership contexts, we conducted a laboratory experiment, which allows us to provide more robust causal evidence on the relationship between leadership and economic outcomes, as noted by Garretsen et al. (2020). Our experimental design is inspired by other experimental studies

that model leadership in settings where subjects first make individual decisions and thereafter make decisions that also affect the outcomes of of others (e.g., Alan et al., 2020; Ertac and Gurdal, 2012). We investigate the mechanisms that drive women's and men's inclination to act unethically as team leaders in the following way.[1] First, we analyze the role of the promotion procedure that determines leadership on leaders' unethical behavior. That is, we compare a promotion procedure where subjects deliberately decide to assume leadership to a situation where leadership is randomly determined. Second, we conducted a follow-up study that takes into account the influence of leaders' social value orientation and beliefs about the team members' dishonesty preference to proxy their perceived team norm of dishonesty reports.

We study dishonest behavior in our experiments in a setting where participants repeatedly have to report the realization of a private signal, and misreporting can be beneficial to them and others. Specifically, they roll a die and receive a payoff that increases in the reported number on the die (Fischbacher and Föllmi-Heusi, 2013). First, they report for their own outcome only, which serves as a proxy for individual dishonesty preferences. Second, to address the effects of assuming responsibility for the team, participants report the outcome of a die role in the role of a potential team leader, which determines their own payoff and the payoff of two team members. Moreover, we measure subjects' willingness to take up the leadership role by asking them whether they want to become a leader or not (*endogenous leadership*).[2] Eliciting subjects' individual dishonest behavior and their willingness to become a leader allows us to analyze how an institutional context with self-chosen (*endogenous*) leadership affects preferences for dishonesty as a team leader. To isolate the effects of the promotion procedure of endogenous leadership, we ran a control treatment without the choice to apply for leadership, i.e., leaders are randomly chosen (*exogenous leadership*). To measure leaders' dishonesty, we apply the strategy method, where subjects indicate what they would report if they were to assume a leadership role. This feature, allows us to analyze the behavior of *all* subjects in the leader role independent of their inclination to apply for leadership, while avoiding a bias from selection effects.

Although our experiment is stylized, it encompasses characteristics that may model dishonest behavior in business situations.[3] For instance, the reporting set-up resembles situations in which managers know the real outcome and may intentionally increase company returns (e.g., Bollen and Pool, 2009; Burns and Kedia, 2006), by misreporting sale figures of teams (Church et al., 2012), the quality of products (Belot and Van de Ven, 2017; Belot and Van De Ven, 2019), or figures to evade taxes (Joulfaian, 2000). The die-rolling paradigm measures dishonesty in a setting with practically no chance of being publicly exposed for misreporting. This is a relevant simplification, as many real-life situations are characterized by a relatively low chance of getting

[1] As we have only very few observations of people who did not identify as female or male, we cannot consider these people when analyzing our data. Thus, the rest of the paper only differentiates between men and women.

[2] They learn that if more than one person says "yes," a random draw will select one of the applicants. If no subject applies, one of *all* three team members is randomly selected as team leader. However, this case has not occurred in our data.

[3] See Abeler et al. (2019) for a meta-study analysis on dishonest behavior.

caught and punished. Importantly, the die-rolling paradigm has been demonstrated to predict real-life behavior in the fields of corrupt behavior in India (Hanna and Wang, 2017) and Denmark (Barfort et al., 2019), wearing masks improperly (Tobol et al., 2020), and free riding in public transportation (Dai et al., 2018; Potters and Stoop, 2016).

First, our results confirm lab-experimental evidence that women behave less dishonestly than men when deciding on individual outcomes, e.g., in lying situations where lying only benefits the person who lies and hurts somebody else (e.g., Dreber and Johannesson, 2008; Houser et al., 2012; Muehlheusser et al., 2015; Houser et al., 2016; Grosch and Rau, 2017). Second, this gender difference vanishes in the reporting decision when subjects decide on behalf of the team. The reason is that women increase dishonesty as leaders, while men are similarly dishonest in both decisions. Moreover, we find that dishonest men tend to self-select into leadership and show similar misreporting behavior for individual and team outcomes. We find no such relation for women. Our control treatment reveals that women only increase their misreporting from individual to team outcomes when they can apply for leadership, but not with an external appointment. The findings highlight that women's increase in dishonesty is not driven by the team context *per se*. It is caused by both having the option to choose to become a leader *and* making decisions for the team. Our follow-up study emphasizes that perceived team norms seem to be the key mechanism for women leaders to increase misreporting on behalf of the team.

Our study contributes to the scarce experimental evidence on gender differences in leadership behavior, by analyzing the causal effect of assuming leadership and making decisions on behalf of others on dishonest behavior. This analysis may be useful to better anticipate the impact of managerial outcomes on personnel decisions. The observed increase in women's dishonesty when they have the option to apply for leadership suggests that imposing mandatory quotas for women in management positions may not necessarily lead to an overall increase in ethical decision-making. Moreover, we contribute to a better understanding of the lack of female leaders. So far, there are various explanations for why women are underrepresented in leadership positions. Besides firms' discrimination in hiring (Kübler et al., 2018), historical gender-role attitudes (e.g., Alesina et al., 2013), and a lack of female role models (Beaman et al., 2012), gender differences in preferences (Azmat and Petrongolo, 2014; Croson and Gneezy, 2009) are potential explanations. Our results suggest that women's lower propensity for dishonest behavior in general at least cannot explain their reluctance to apply for and assume leadership roles.

2 Study 1: Experimental Design

In this section, we describe the design of our within-subjects experiment. In the beginning, we elicit data on economic preferences in several consecutive parts. We use these preference data as pilot data for another experiment on unincentivized vs. incentivized elicitation of preferences

(Grosch et al., 2023).[4] Afterward, we collect the main data for this experiment, i.e., we apply modifications of the die-rolling game introduced by Fischbacher and Föllmi-Heusi (2013) to measure dishonest behavior when misreporting individual outcomes ("individual preferences for dishonesty") and team outcomes ("preferences for dishonesty as a team leader"). For each part, subjects receive new instructions and, this way, we inform them step by step about each part. Subjects are told that at the end of the session, the computer randomly selects one of the parts for the payout. Each session ends with a questionnaire on socio-demographics.

2.1 Individual Preferences for Dishonesty

To measure subjects' individual dishonesty preferences, we implement a modification of the method by Fischbacher and Föllmi-Heusi (2013). In this part, subjects have to report the payoff associated with the outcome of a die-roll. To have control over individual misreporting behavior, we apply a computerized version of the die-rolling game that records the real die outcome. This approach is similar to Kocher et al. (2017). Although subjects are anonymous per design, they cannot disguise their lies and, therefore, we expect subjects to be less dishonest than in the original die-rolling game (Kajackaite and Gneezy, 2017). To demonstrate to subjects that the die is fair, they can repeatedly press a button for 20 seconds that randomly displays one side of a six-sided die whenever they press the button on the computer screen. At the end of the 20 seconds, subjects are asked to press the button one more time and to report the payoff associated with the outcome of the actual die-roll. They know that the report determines their payment in this task. In the task, each associated payoff corresponds to the die number times three. For instance, a one is associated with €3, a two is associated with €6, .., a five is associated with €15. The only exception is the number six, which is associated with no payment to mitigate the risk of introducing a focal point (Fischbacher and Föllmi-Heusi, 2013). This first part of our within-subjects experiment allows us to compare individual dishonesty preferences to the situation, where subjects can misreport team outcomes, explained in the following.

2.2 Preferences for Dishonesty as a Team Leader

In this part, we measure dishonest behavior when subjects decide as team leaders. For this, we play a die-rolling game similar to the previous one. That is, subjects again roll a six-sided die and report the outcome. We apply the same payoff structure as in the previous part (e.g., a die-roll of a four is associated with a payoff of €12). The crucial difference to the previous part is that subjects learn that they have been randomly matched in teams of three and that each team member's payoff is determined by the team leader's report. The experimental instructions point out that each of the other two team members receives the same payoff as the one reported

[4]Note that we do not provide any feedback before the end of the experiment. Furthermore, these parts are identical across treatments and can, therefore, not induce any treatment differences. We provide the entire instructions of the experiment including these parts in Appendix B.

by the leader. We do not use the word "leader" in the instructions, and call the person who determines the team outcome "person A." Before subjects roll the die, they can choose whether they want to be in the role of "person A" (leader) or not. When only one person within a team states her willingness to become the leader, she will become the team leader. When more than one person says "yes," a random draw selects one of the applicants for leadership. When no one applies, the random draw selects one person among the three team members.[5] To ensure a team decision could be reached even if no one applied for leadership, all participants were required to state a team decision, i.e., we applied the strategy method (Selten, 1967). Because of the option to assume leadership, we call this treatment *"endogenous leadership."* The choice mechanism enables us to relate the subjects' individual dishonesty preferences to their willingness to act as a leader. Moreover, we can analyze whether a subject's choice to assume responsibility affects dishonesty in the leadership position. In our study, the cost of applying for leadership and acting as a leader beyond the potential disutility from misreporting or the burden from deciding on behalf of others are negligible. This might result in a relatively high number of applicants. We are, however, not interested in the precise level of subjects willing to act as leaders but in the behavioral changes across contexts. In this regard, the application of the strategy method is important, as it allows us to isolate the effect of changing decision environments on behavior while avoiding selection-driven changes.

After subjects decide whether they want to act as a leader or not, we elicit their beliefs about how many of the other team members wanted to become leaders. Subjects receive €1 for a correct guess. Next, all subjects are told to roll the die once and to simultaneously enter the outcome they want to report should they become person A (leader).[6] They know that this decision only becomes relevant if they are selected as the leader. Subjects are told the anonymous id (subject 1, 2, or 3) of the selected leader and the report made by this subject at the end of the experiment. However, they are not informed about this subject's real die roll.

Our experimental design models the selection into leadership and the hierarchical decisions of leaders. That is, subjects decide to become leaders and afterward they are solely responsible for the payoffs of the team, which they report in a non-strategic situation. In contrast, the decisions in Kocher et al. (2017) and Lohse and Simon (2021) are not hierarchical and focus on strategic contexts to analyze dishonest decisions in groups. In Kocher et al. (2017) group members have to achieve payoff commonality, i.e., subjects only earn a positive amount if they report the same die outcome as the other group members.[7] Whereas, in Lohse and Simon (2021) coordinating on the same reported own outcomes guarantees that a dishonest report of subjects' own outcome is feasible. Another difference compared to these studies is that we analyze subjects' decision and

[5] This case has not occurred in our data.

[6] This approach is different from experiments with sequential designs where leaders move first, and other subjects may imitate their behavior to analyze the role of "leading-by-example" (e.g., Amore et al., 2022; Gächter et al., 2012; Güth et al., 2007).

[7] In a control treatment, Kocher et al. (2017) also analyze simultaneous team decisions of reporting individual outcomes when subjects do not receive an incentive for reporting similar outcomes.

the consequences of selection into leadership. In this respect, our leaders decide independently on behalf of others, whereas subjects in Kocher et al. (2017) and Lohse and Simon (2021) meet in a chat before they make their reporting decisions. We deliberately refrain from a strategic team context to avoid confounds in answering our research question on leaders' decision to misreport outcomes on behalf of their team members.

2.3 Procedure

The experiment was conducted at a German university, and it was programmed with the software z-Tree (Fischbacher, 2007). Subjects were recruited with the subject-pool software ORSEE (Greiner, 2015). In total, 282 subjects participated (144 in the main treatment; 138 in the control treatment[8]). After subjects made their decisions, we ran a questionnaire to verbally elicit their preferences. This is part of a pilot study for a project on the relationship between non-incentivized and incentivized elicitation of preferences (Grosch et al., 2023). To control for order effects, we conducted some sessions with the questionnaire at the beginning. At the very end of the experiment, we asked for the subjects' socio-demographics. Participants were from various disciplines with a mean age of 23.60. In our sample, 50.4% of the subjects are women. Sessions lasted approximately 70 minutes. We paid subjects in cash at the end of the experiment, and earnings were on average €10.81, including a show-up fee of €5. In the following, we start reporting the hypotheses and results of our main study (Study 1).

3 Study 1: Hypotheses

In this study, we focus on misreporting behavior where no other party can be betrayed or deceived. Therefore, we refrain from the term "lying" and use the term "dishonest behavior."

The experimental literature on gender differences in individual dishonest behavior finds predominantly that men behave more dishonestly than women for selfish black lies, i.e., when being dishonest benefits oneself and harms another person/a third party in the lab (Conrads et al., 2014; Dreber and Johannesson, 2008; Houser et al., 2012, 2016; Grosch and Rau, 2017), in face-to-face interactions (Lohse and Qari, 2021), and in the field (Azar et al., 2013; Bucciol et al., 2013). This derives our first hypothesis on individual reporting behavior.

Hypothesis 1:
Men are more often dishonest than women when reporting individual outcomes.

Misreporting as a team leader generates a benefit for the team members and can, therefore, be seen as a Pareto improvement over telling the truth. Thus, subjects may receive an extra utility from being dishonest as a leader than when reporting individual outcomes. In line with that, Gino et al. (2013) demonstrate that the more other people benefit from misreporting, the more

[8]We describe the details of the control treatment in section 4.2.2.

people are willing to be dishonest. Hence, we expect that subjects are more likely to misreport team outcomes compared to individual outcomes.

Moreover, we expect gender differences in the dishonesty of leaders, based on the following reasoning. Compared to men, women are expected to demonstrate higher prosociality at work (Brañas-Garza et al., 2018) and have been found, on average, to be more prosocial (e.g., Andreoni and Vesterlund, 2001; Croson and Gneezy, 2009; Eckel and Grossman, 1998; Rand et al., 2016). The leader's decision to be dishonest for the team could be perceived as a prosocial act. Since women's level of prosociality is more pronounced than men's, the increase in misreporting between the individual and the team context may be stronger for women than for men.

Hypothesis 2:
(a) Subjects are more often dishonest when they report team outcomes compared to individual outcomes.
(b) Women switch to dishonest behavior when misreporting team outcomes compared to individual outcomes more often than men.

People's attitudes towards dishonesty may be vital for applying for leadership when leadership may demand to behave unethically. Other studies have shown that people chose leadership positions based on individual characteristics that resonate with the characteristics of the decision environment, e.g., risk preferences, overconfidence, competitive preferences, preferences for free-riding behavior (e.g., Alan et al., 2020; Barber and Odean, 2001; Cappelen et al., 2016; Eckel and Grossman, 2002; Ertac and Gurdal, 2012; Niederle et al., 2013; Niederle and Vesterlund, 2007; Reuben et al., 2012). Moreover, a lab experiment by Brassiolo et al. (2021) shows that institutions with a cheating opportunity attract (repel) dishonest (honest) subjects. In our setting, we expect that individual dishonesty preferences determine subjects' decisions to become leaders because dishonesty pays off in our decision context. Therefore, subjects with an individual dishonesty preference may apply for leadership to ensure that they maximize their individual profit when deciding to misreport team outcomes. Honest subjects, on the contrary, may not apply for leadership to enforce honest behavior in the team domain since they do not have monetary incentives to do so and they can shift responsibility to team members who applied. In contrast, dishonest subjects have strong monetary incentives for becoming a leader and misreporting team outcomes.

Hypothesis 3:
Subjects with an individual dishonesty preference are more likely to apply for leadership.

4 Results: Study 1

In this section, we present the findings of Study 1, i.e., our main results that compare subjects' misreporting behavior of individual and team outcomes. Thereafter, we introduce and report the results of Study 2, an online experiment to replicate the findings and to learn more about the underlying channels of behavioral changes when acting as leaders.

4.1 Main results

First, we focus on subjects' misreporting behavior in our main treatment, where subjects can apply for leadership (*endogenous leadership*). We categorize cases as "profitable dishonest reports" when subjects increased their earnings by misreporting the associated payoffs of the real outcome of the die roll. In this case, the dummy variable "dishonest behavior" is one, otherwise, the variable is zero.[9] This translates into potential dishonesty for die-roll outcomes between one and four, where subjects inflated their statements by reporting higher payoffs (payoffs associated with die outcomes between two and five) than the payoffs associated with the real die outcomes.

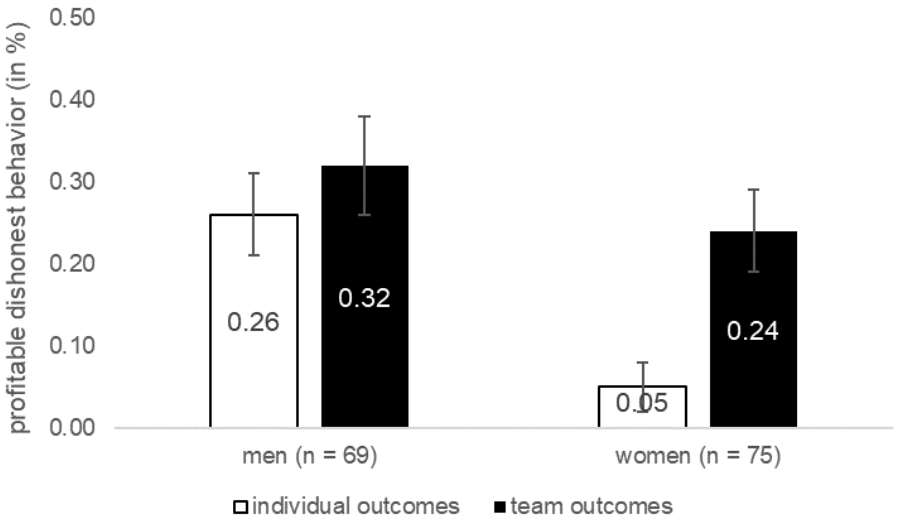

Figure 1: Percentage of profitable dishonest reports in *endogenous leadership*. White (black) bars present misreporting for individual outcomes (team outcomes). Standard error bars included.

We show the share of misreporting individual outcomes using white bars and the share of misreporting team outcomes with black bars in Figure 1. The figure conditions on men (left panel) and women (right panel). When reporting individual outcomes, our data confirm commonly found gender differences in dishonesty (e.g., Conrads et al., 2014; Grosch and Rau, 2017; Kocher et al., 2017; Jacobsen et al., 2018). That is, men (26%) are five times more frequently dishonest than women (5%) (Fisher's exact test, p=0.001), supporting Hypothesis 1.

[9]The dummy variable is set to "0" when subjects reported the real outcome, or when they reported an outcome that was to their disadvantage. However, we did not observe the latter case in Study 1.

We turn to our first research question and analyze misreporting behavior when deciding as team leaders. The gender difference in dishonesty disappears when subjects report team outcomes (Fisher's exact test, p=0.353). In the team domain, women significantly increase dishonest behavior by more than four times from 5% to 24% (Wilcoxon matched-pairs test, p<0.001). In contrast, men demonstrate similar dishonest behavior in both contexts (individual outcomes: 26%; team outcomes: 32%) (Wilcoxon matched-pairs test, p=0.346). Thus, we find support for Hypothesis 2b. In general, we find that subjects behave more dishonestly when reporting team outcomes (28%) than individual outcomes (15%) (Wilcoxon matched-pairs test, p=0.002). This is in line with the results from Kocher et al. (2017) and Lohse and Simon (2021) who analyze group decisions in a strategical setting with pre-play communication and without leaders.[10] This supports Hypothesis 2a. We summarize our results as follows.

Result 1: Dishonest Behavior for Individual and team outcomes
(a) Women behave less dishonestly than men when reporting individual outcomes.
(b) Only women significantly increase dishonest behavior when deciding about team outcomes. Consequently, women behave as dishonestly as men when acting as leaders.

4.2 Potential drivers of the main result

To better understand leaders' motivation to behave dishonestly when deciding about team outcomes, we focus on potential drivers that affect dishonest behavior in *endogenous leadership*. We start with regression analyses to investigate the impact of individual characteristics and individual motives on misreporting team outcomes.

4.2.1 The impact of individual determinants

Table 1 presents probit regressions on subjects' likelihood to misreport team outcomes. Precisely, the regressions focus on the influence of subjects' gender (*female*), and their individual preferences for dishonesty, captured by a dummy (*misreported ind. outcome)* which is one (zero) when subjects misreported (truthfully reported) individual outcomes.

[10] Castillo et al. (2022) replicate Kocher et al. (2017) and show that groups are not more dishonest than individuals when a local charity is hurt by subjects' dishonesty.

Table 1: Probit regressions on misreporting team outcomes (Study 1: *endogenous leadership*).

	misreporting team outcomes					
	all		*female*		*male*	
	(1)	(2)	(3)	(4)	(5)	(6)
misreported ind. outcome	0.351***	0.322***	0.429**	0.485**	0.338***	0.234**
	(0.083)	(0.085)	(0.083)	(0.190)	(0.187)	(0.100)
female	0.009	0.022				
	(0.074)	(0.074)				
(perceived) chance of becoming a leader		0.252		0.238		0.302
		(0.194)		(0.268)		(0.277)
controls[a]	no	yes	no	yes	no	yes
obs.	144	144	75	75	69	69
Standard errors in parentheses						
*** p<0.01, ** p<0.05, * p<0.1						

Note: The regressions report average marginal effects.
[a] Controls: age, whether subjects study economics, and an order dummy.

Moreover, we include subjects' perceived chance of becoming a leader (i.e., their guess on the number of how many other subjects 0-2 want to become a leader combined with their individually stated willingness to become a leader). This is captured by the variable *(perceived) chance of becoming a leader* in models (2), (4), and (6). Models (1)–(2) present the results from all subjects. Contrary to that, models (3)–(4) present the results from female subjects only and the last two models present the results from male subjects only. That way, we can see, whether the findings in our data are gender-specific to learn about the causes for women to increase their dishonest behavior in the team domain.[11] Finally, we include subjects' age in years (*age*), a dummy whether they study economics (*econ*), and an order dummy that controls in models (2), (4), (6) for the timing of the verbal elicitation of preferences (beginning vs. end of the sessions). All regressions report marginal effects with standard errors in parentheses. We report regressions with standard coefficients in Table 4 of the Appendix. All models highlight that subjects' dishonesty preferences positively correlate with their dishonest behavior as leaders. Precisely, the highly significant positive coefficient of *misreported ind. outcome* shows that subjects who misreported individual outcomes are also more likely to misreport team outcomes. Moreover, the models do not indicate that this result is gender-specific. Results are robust to the inclusion of controls (models (2), (4), and (6)). Lastly, models (1) and (2) confirm that women and men equally misreport team outcomes.

[11] An obvious solution to test for a potential gender-specific effect of individual dishonesty preferences or their perceived chance of becoming a leader on subjects' propensity to behave dishonestly as a leader would be to include the interaction of *female* and *misreported ind. outcome* or of *female* and *(perceived) chance of becoming a leader*. However, including interaction terms in probit models is problematic (see Ai and Norton, 2003). We test the robustness of all our probit results in OLS regressions, and we also test for the respective interaction terms in OLS regressions. The results from the OLS regressions do not deviate from the results reported in the paper.

Note that, as described in detail in section 2.2, subjects had to make a reporting decision for the team irrespective of their willingness to assume leadership. Thus, the observed relation between misreporting of individual and team outcomes cannot be driven by selection effects into leadership. As additional robustness checks, we also control for subjects' (perceived) chance of becoming a leader which includes their stated willingness to become a leader. It turns out to be always insignificant. Finally, if we restrict to subjects who indicated their willingness to become a leader the estimation results presented in Table 1 hardly change.

4.2.2 The role of subjects' decision to become a leader

Our analysis of participants' reporting decisions as team leaders shows a strong correlation with their individual dishonesty preferences. The decision-maker faces two changes in the team domain compared to the individual domain. First, they can apply for leadership, second, their reporting decision affects other persons' payoffs. To isolate the effect of the payoff externalities on subjects' misreporting team outcomes, we run a control treatment called *"exogenous leadership."* Compared to the *endogenous treatment* (that may resemble a job posting), in the *exogenous leadership* treatment, employees do not apply for the leadership position, but they are exogenously appointed to it (e.g., by a third party). The treatments may also offer valuable insights from a managerial perspective, as they allow us to shed light on the implications of different appointment procedures (see e.g., Bohnet et al., 2016; Murciano-Goroff, 2022).

While we keep the sequence of actions similar to the main treatment, we disable the leadership choice and a random draw determines leadership in this control treatment. To account for the possibility that subjects in our main treatment may hold different beliefs on the likelihood of ending up as a leader, we apply different probabilities of becoming a leader in the *exogenous treatment*. The probabilities vary between one-third, i.e., we tell all three team members that their probability of becoming a leader is one-third, and one-half, i.e., we tell one team member that she cannot become a leader for sure, while the other two team members are told that the probability of becoming a leader is one half.[12]

The data show that the probability (1/3 vs. 1/2) does not significantly influence the fraction of misreporting team outcomes (Fisher's exact test, p=0.323) and does not increase misreporting from individual to team outcomes (a dummy, which is positive when subjects misreported team but not individual outcomes) (Fisher's exact test, p=0.439).[13] We also run two Probit regressions on misreporting team outcomes and the increase in misreporting from individual

[12]We do not have teams in which only one team member becomes the leader for sure as this is a very rare case in the *endogenous treatment*. It only occurred in one of 144 cases where a subject applied for leadership and at the same time believed that no other team member would.

[13]In the *endogenous treatment*, we run a similar analysis and find that subjects' beliefs of becoming a leader do not significantly affect misreporting team outcomes (Fisher's exact test, p=0.256) and the increase in misreporting from individual to team outcomes (Fisher's exact test, p=0.527). In the endogenous treatment, the perceived chances to become a leader depends on the decision-maker's willingness to become a leader and on her belief about the other team members' willingness. Thus, the perceived chance to become a leader takes on values in $\{0, \frac{1}{3}, \frac{1}{2}, 1\}$.

to team outcomes, which confirm the non-parametric test results. The regressions show that the probability of becoming a leader in the *exogenous leadership treatment* does not affect the probability for misreporting team outcomes (p=0.757) and the increase in misreporting from individual to team outcomes (p=0.339).[14] Thus, we merge these data.

Figure 2 presents the share of misreports for individual and team outcomes when leadership is exogenously determined. As expected, we confirm that men behave significantly more

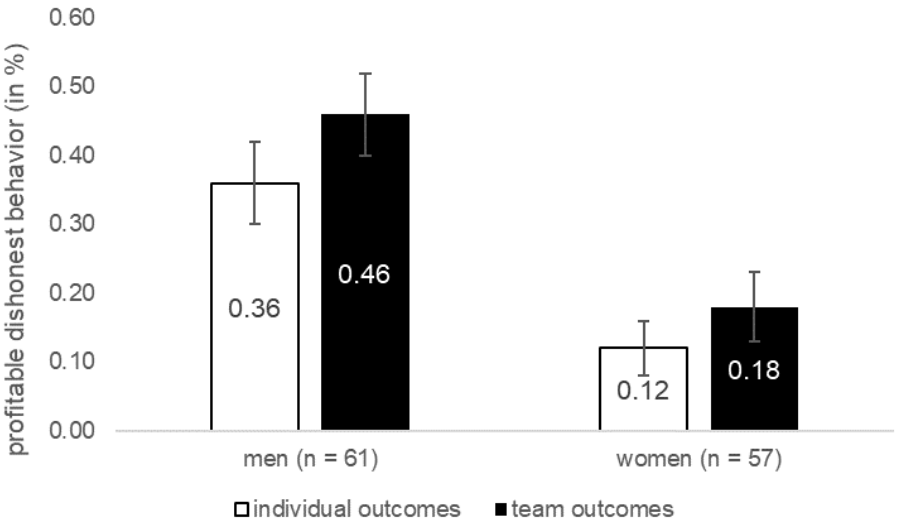

Figure 2: Percentage of misreports under *exogenous leadership*. White (black) bars present the reports for individual outcomes (team outcomes). Standard error bars included.

often dishonestly (36%) than women (12%) (Fisher's exact test, p=0.003). Focusing on team outcomes, we find a moderate but insignificant increase for men (from 36% to 46%) (Wilcoxon matched-pairs test, p=0.180). In contrast to the *endogenous treatment*, women show a less pronounced and insignificant increase of dishonest behavior from the individual (12%) to the team domain (18%) (Wilcoxon matched-pairs test, p=0.257). Hence, the gender difference in leaders' dishonest behavior remains when leaders are exogenously determined (Fisher's exact test, p=0.001).

Our control treatment highlights that women's increase in dishonesty as team leaders vanishes when they cannot apply for leadership. We do not find such an effect for men. The finding suggests that the driver for Result 1b is the opportunity to apply for leadership positions.

Result 2: Dishonest Behavior as Leaders under Exogenous Leadership
Under exogenous leadership, women show no increase in dishonest behavior. Consequently, the gender difference in individual dishonesty preferences remains when deciding as leaders.

[14] In the two regressions, we include a dummy controlling for the two probabilities of ending up as a leader. We also include a gender dummy and the same controls as in Table 1.

4.2.3 Determinants of Subjects' Willingness to become a Leader

In the following, we test Hypothesis 3, which expects that subjects with individual dishonesty preferences are more likely to apply for leadership. Motivated by our previous results, we also want to explain why women compared to men misreport team outcomes more often than individual outcomes. Therefore, we investigate the willingness to become a leader for men and women separately.

Figure 3 gives an overview of women's and men's share of applying for the leadership role. The diagram conditions on subjects' individual dishonesty preferences, i.e., their reporting decision when deciding for themselves. It can be seen that the willingness to become a leader is

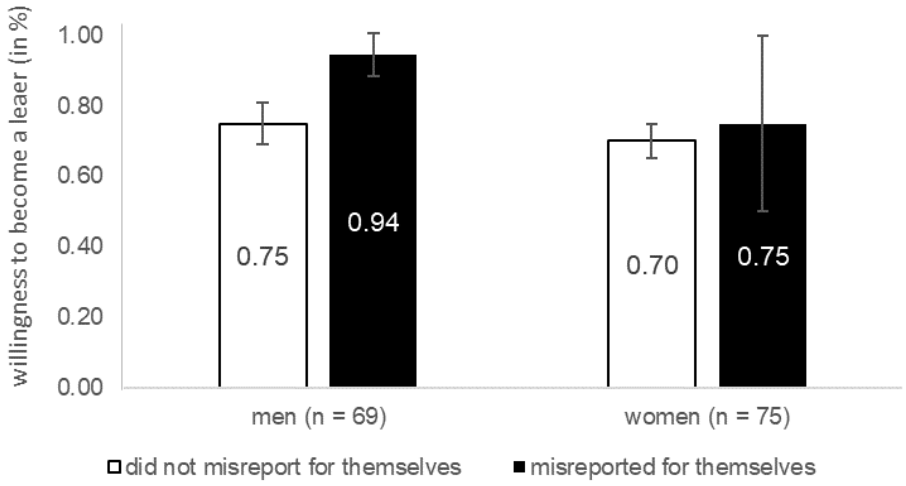

Figure 3: Percentage of subjects who want to become a leader, conditional on gender in *endogenous leadership*. White (black) bars present subjects who reported truthfully for themselves (misreported). Standard error bars included.

higher by 19 percentage points for men with individual dishonesty preferences, as compared to men who did not misreport their individual outcome. We find that this difference is weakly statistically significant (Fisher's exact test: p=0.094). A conspicuous finding is that for women, individual dishonesty preferences do not determine their willingness to become a leader (Fisher's exact test: p=1.000). In sum, we find that dishonest men tend to be more willing to become a leader. By contrast, individual dishonesty preferences do not matter for women. Thus, we only find support for Hypothesis 3 when focusing on men.[15]

[15]Generally, there is no statistically significant difference between men and women in the willingness to apply for leadership (Fisher's exact test: p=0.250).

5 Study 2: Channels of Changes in Dishonest Behavior

In Study 1, we found that under endogenous leadership, women increase their dishonest behavior as leaders. Moreover, our control treatment emphasizes that women only increase dishonest behavior when they can apply for leadership. Although this highlights the importance of the endogenous leadership choice, we know little about the channels for the behavioral change of women.[16] Therefore, we pre-registered and conducted a follow-up study (Study 2).[17] Based on the findings in Study 1, we pre-registered the hypotheses that men behave more dishonestly than women when deciding for themselves (H1) and that under endogenous leadership women increase dishonesty from the individual to the team domain more strongly than men (H2). In Study 1, we also found indicative evidence that women who wanted to become a leader more often switched from individual honest preferences to dishonest behavior for teams (23%) than women who did not want to become a leader (14%). We did not find such an effect for men. Thus, we pre-registered a third hypothesis (H3), which expects that women who assume leadership show a stronger increase in misreporting from individual to team outcomes than women who do not apply for leadership.

Study 2 aims at two goals. First, it attempts to replicate our findings of Study 1 by using a different dishonesty task and a different subject pool in an online experiment. The replication of the findings is necessary to compare the results to Study 1. Using an alternative and very simple dishonesty task as well as the online subject pool helps us to test the robustness and to increase generalizability. Second, we add additional measures to learn more about the individual motives and the underlying channels of women's behavioral change when acting as leaders. Given the payoff externalities of leaders' reporting decisions on team members' outcomes, the leaders' dishonest behavior might resonate with their prosociality. Related to this, leaders might not just care about payoff consequences for their team members but also about making a reporting decision that reflects their team members' dishonesty preferences, i.e., taking an action that aligns with the team members' individual dishonesty preferences. To analyze these two channels of women's behavioral change, we added two additional measures. First, as a measure of subjects' prosociality, we elicit their social value orientation. Second, to control for a belief-driven behavioral change in the leadership role, we measure subjects' beliefs about their team members' individual dishonesty preferences. Since the new dishonesty task in Study 2 is binary, this simplifies the measurement of these beliefs.

[16] To prepare Study 2, we conducted a pilot lab experiment in a similar within-subjects setting as in the *endogenous leadership treatment* of Study 1. Afterward, we elicit leaders' beliefs on the dishonest behavior of a randomly selected team member in the individual domain. A disadvantage of this approach is that we have to apply the strategy method and that we have to compute mean beliefs of the guesses, as the die task may result in six different outcomes. The results of the pilot study suggest that women who wanted to become leaders increase dishonesty for teams when holding an above-median belief on the reported die number of their team members in the individual domain. Based on the findings in the pilot, we designed Study 2 to improve the analysis of dishonesty beliefs. Therefore, we conducted a well-powered pre-registered online experiment, applying a simpler dishonesty task with an easier belief elicitation (see above).

[17] The pre-registration can be found here: `https://aspredicted.org/gm9v3.pdf`

5.1 Experimental Design

The experimental setup is almost identical to the first study. The main difference is the use of a different dishonesty measure than in Study 1. In Study 2, we use the dots task (Gino et al., 2010), in which we ask participants to report on which half of a quadratic area ("left" or "right") they see more dots. Reporting "right" corresponds to misreporting and leads to a higher payoff than reporting "left" which is a truthful report.

The study comprises four parts, and one of them is randomly determined to be payoff-relevant. In part one, we elicit subjects' social value orientation (SVO) with the slider measure introduced by Murphy et al. (2011). Here, subjects are repeatedly confronted with two possible payoff allocations between them and another subject. In each decision set, the allocations vary the payoff differences and subjects have to trade off different money allocations. Based on their choices, we calculate an SVO angle for each subject (see Appendix C for instructions as well as for a screenshot of one of the allocation decisions; for the angle's calculation see Murphy et al., 2011). In part two, we measure dishonest behavior and subjects reported individual outcomes. A truthful report leads to a payoff of £0.20, and a dishonest report to a payoff of £2.00. Part three is similar to the team-dishonesty measure in the former experiment, except for the different dishonesty game. A truthful report leads to a payoff of £0.20 for each team member, and a dishonest report £2.00 for each team member. Thereafter, in part four, we elicit subjects' beliefs on the team members' individual dishonesty preferences in an incentivized way. They are asked about their belief of how many other team members indicated "right" in part two of the experiment. A correct guess yields a payoff of £2.00. Finally, we asked several survey questions to gather additional evidence on women's and men's motivation to act as a leader. We asked them if they wanted to influence payoffs and/or have the power of decision-making.[18]

We recruited 156 subjects (76 male and 80 female) using Prolific (Palan and Schitter, 2018) and surveyed them using Qualtrics. The sample is limited to UK citizens with a high school degree or a higher education. The average participant was 32.57 years old. The average time spent on the experiment was 6.81 minutes. Participants earned £1.89 on average, including a show-up fee of £1.00.

5.2 Replication of the Results

We start with our results on gender differences in dishonest behavior. We condition dishonest behavior on men (left panel) and women (right panel). Figure 4 presents women's and men's percentages of dishonest reports when misreporting individual outcomes (white bars) and team outcomes (black bars) in Study 2.

As can be seen in Figure 4, the results in Study 2 look similar to the results in Study 1. Again, we find a gender difference in individual dishonesty preferences. Men behave significantly more dishonestly than women (Fisher's exact test: p=0.018). The frequency of men's dishonest

[18]Survey responses do not differ between men and women. Therefore, we do not report them in the paper.

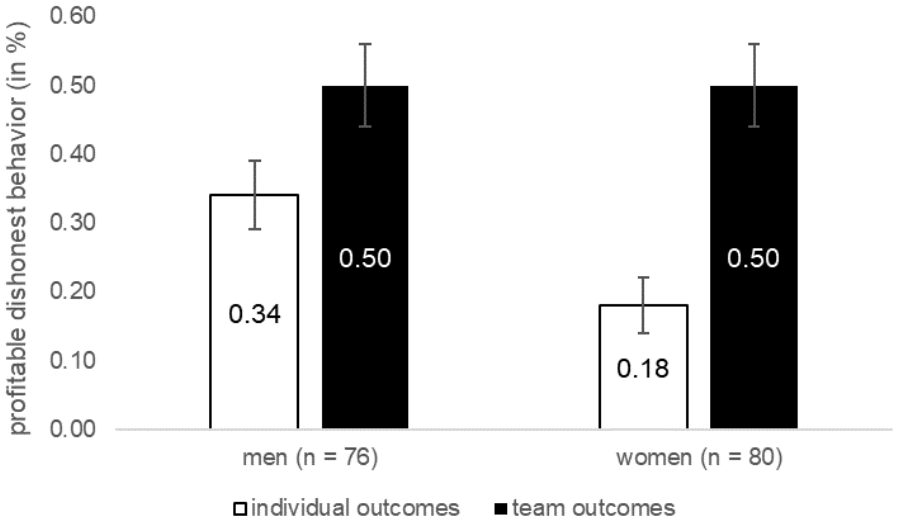

Figure 4: Percentage of misreporting in Study 2. White (black) bars present misreporting individual outcomes (team outcomes). Standard error bars included.

reports is almost two times higher (34%) than women's (18%). The result supports H1, and it is in line with Study 1. By contrast, the gender difference is no longer statistically significant when subjects act as leaders (Fisher's exact test: p=1.000), as both genders misreport team outcomes in 50% of the cases. In Study 2, the increase in dishonest behavior is positive and statistically significant for both genders (Wilcoxon signed-rank test, men: p=0.007; women: p<0.001). Importantly, a significantly higher fraction of women switches from an individual truthful report to misreporting team outcomes as compared to men (Fisher's exact test: p=0.075).[19] This supports H2 and the findings of Study 1, which suggest that in *endogenous leadership* particularly women increase dishonest behavior when deciding as leaders. A closer look shows that the percentage of women who switch from honest to dishonest behavior is similar for women who apply for leadership (36%) and for women who do not apply for leadership (32%) (Fisher's exact test: p=0.797). Thus, we do not find support for H3.

Following the structure in Study 1, we now analyze the behavioral drivers behind leaders' motivations to report dishonestly. In Table 2, we run similar regressions as in Study 1 on subjects' likelihood to misreport team outcomes, as in Table 1.

[19]The variable *switch* is coded as one if a person is honest when deciding for herself and dishonest when deciding as a leader. Otherwise, the variable is coded as zero.

Table 2: Probit regressions on misreporting team outcomes (Study 2).

	misreporting team outcomes					
	all		*female*		*male*	
	(1)	(2)	(3)	(4)	(5)	(6)
misreported ind. outcome	0.477***	0.501***	0.457***	0.449***	0.471***	0.559***
	(0.069)	(0.071)	(0.136)	(0.137)	(0.064)	(0.066)
female	0.080	0.076				
	(0.074)	(0.074)				
(perceived) chance of becoming a leader		0.094		0.292		-0.137
		(0.198)		(0.286)		(0.271)
controls[a]	no	yes	no	yes	no	yes
obs.	156	156	80	80	76	76
Standard errors in parentheses						
*** p<0.01, ** p<0.05, * p<0.1						

Note: The regressions report average marginal effects.
[a] Controls: age, and whether subjects hold a university degree.

Again, we control for the impact of individual dishonesty preferences, gender, and subjects' beliefs on the number of other subjects who want to become a leader. We include similar controls as in Study 1, report marginal effects (we report regressions with standard coefficients in Table 5 in the Appendix), and present standard errors in parentheses.[20]

The results highlight that only individual dishonesty preferences, captured by the highly significant positive coefficient, *misreported ind. outcome*, explain whether subjects misreport team outcomes. All other variables are insignificant. This supports the idea to focus on further analyses on the belief about other team members' dishonesty preferences. In sum, we replicate the findings of Table 1 (Study 1).

In the next step, we focus on the subjects' willingness to become a leader. The results are generally in line with our previous results. We find a tendency that people with individual dishonesty preferences are more likely to apply for leadership. More precisely, the percentage of men who want to become leaders is higher by 12 percentage points (88% vs. 76%) when they show an individual preference for dishonesty. We find that this difference is less pronounced for women (79% vs. 71%). We do not find that these differences are significant in this Study 2 (Fisher exact tests, men: p=0.238; women: p=0.747).[21] In sum, we can replicate most of the results of Study 1. Importantly, in Study 2 we again observe that women switch from individual truthful reporting to dishonest behavior as leaders more often than men. As a consequence, the gender gap in misreporting behavior closes in the team domain, similar to Study 1.

[20]The results are also robust for OLS regressions with and without included interaction terms.
[21]Exactly like in Study 1 we do not find gender differences in the willingness to become a leader (Fisher's exact test: p=0.266).

5.3 Potential Drivers of Switching Behavior

In this section, we look deeper into the potential drivers of the main result. First, we analyze whether our two additional measures are different across genders. Potential differences may help to explain why the observed increase in dishonesty is particularly strong among women. In line with the literature (e.g., Grosch and Rau, 2017), we find women to be more prosocial according to the social value orientation measure as compared to men (Mann-Whitney test: p=0.059). We find no difference in average beliefs (Mann-Whitney test: p=0.777). Next, we turn to the relevance of the two potential channels for leaders' reporting decisions.

As we find that both genders increase their dishonest behavior significantly as leaders, we now focus on subjects' decisions to switch from an individual truthful report to misreporting team outcomes. We compare the impact of individual beliefs on team members' dishonesty preferences and individual social value orientation (SVO) on subjects' decisions to switch.

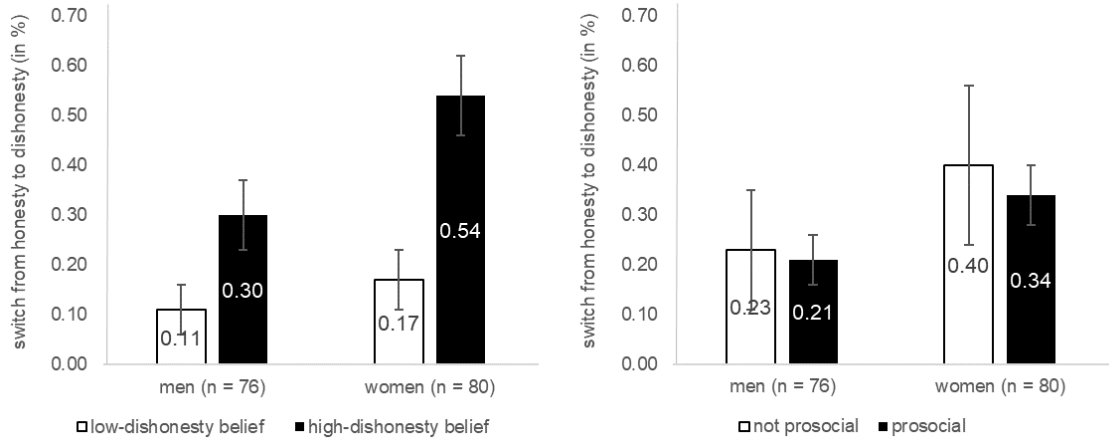

Figure 5: Percentage change from an individual truthful report to misreporting team outcomes conditional on gender and channel (left panel: beliefs, right panel: prosocial behavior) in Study 2. White (black) bars present the reports for low levels (high levels). Standard error bars included.

Figure 5 gives an overview of the percentage change from reporting truthful individual outcomes to misreporting team outcomes. We condition on gender and the potential channel (left panel: beliefs, right panel: prosocial behavior). We define that subjects hold a "high-dishonesty belief" ("low-dishonesty belief") if they believed that the strict majority, i.e., all (less than two) other team members behaved dishonestly at the individual stage. The variable "prosocial" is defined as 1 (0) if a person can (cannot) be categorized as prosocial according to our social value orientation measure.

Figure 5 highlights that men and women with a high-dishonesty belief switch more often than men and women with a low-dishonesty belief. Importantly, the effect size, as well as the statistical significance of this difference, is larger for women (54% vs. 17%) than for men (30% vs. 11%) (Fisher's exact test, women: p=0.001; men: p=0.053). Thus, we find a statistically significant gender difference when subjects hold a high-dishonesty belief, i.e., women are significantly

more likely to switch than men (Fisher's exact test, p=0.041). The gender difference disappears among leaders with a low-dishonesty belief (Fisher's exact test, p=0.528). By contrast, the right panel of the diagram demonstrates that being prosocial does not affect the switching behavior of either gender (Fisher's exact tests, men: p=1.000; women: p=0.734). These results indicate that leaders' beliefs but not their prosociality predict their behavioral change. Moreover, beliefs matter more for women's dishonest behavior as leaders than for men's. We confirm these results using probit regression analyses in Table 3.

Table 3: Probit regressions on subjects' likelihood to switch from an individual truthful report to misreporting team outcomes (Study 2)

	switch from honest to dishonest behavior					
	all		*female*		*male*	
	(1)	(2)	(3)	(4)	(5)	(6)
dishonesty belief	0.221***	0.222***	0.301***	0.318***	0.139**	0.141**
	(0.049)	(0.049)	(0.064)	(0.066)	(0.069)	(0.061)
social value orientation	0.000	0.000	-0.002	-0.002	0.002	0.000
	(0.004)	(0.004)	(0.006)	(0.006)	(0.005)	(0.004)
female	0.138**	0.129*				
	(0.066)	(0.066)				
controls[a]	no	yes	no	yes	no	yes
obs.	156	156	80	80	76	76
Standard errors in parentheses						
*** p<0.01, ** p<0.05, * p<0.1						

Note: The regressions report average marginal effects.
[a] Controls: age, and whether subjects hold a university degree.

In the regressions, we include our two main variables of interest, i.e., subjects' belief about the individual dishonesty preferences of the other team members (*dishonesty belief*) and the measure of their *social value orientation*. Models (1) and (2) additionally include a gender dummy (*female*), whereas models (3)–(4) and (5)–(6) estimate models (1) and (2) separately for women and men. Regressions (2), (4), and (6) include subjects' age and whether they have a university degree as control variables. The regressions report marginal effects (we report regressions with standard coefficients in Table 6 of the Appendix).[22]

The analyses show that leaders with a higher dishonesty belief about their team members' dishonesty preferences are more likely to switch, whereas subjects' social value orientation does not predict switching behavior. Models (3)–(6) show that these findings hold for both genders. The subsample regressions show that the coefficient of dishonesty beliefs is more than twice as

[22]The results are also robust when using OLS regressions.

large for women than for men ((3)–(4) vs. (5)–(6)). This suggests that dishonesty beliefs matter more for women than for men, confirming previous results. We estimate a linear probability model which includes an interaction between *female* and *dishonesty belief*. The coefficient of the interaction is positive and significant (p=0.078). Finally, in line with our previous results, models (1)–(2) confirm that women are generally more likely than men to increase dishonesty from the individual to the team domain.

Taken together, we established that irrespective of gender, leaders' beliefs about other team members' dishonesty preferences but not their prosociality predicts their behavioral change. Moreover, the belief channel seems more pronounced for women, which partially explains women's stronger behavioral change. Finally, despite the observed gender difference in prosociality, this difference cannot explain the more pronounced behavioral change among women.

Result 3: Channels for switching from honesty to dishonesty
(a) The likelihood that women (and men) switch from an individual truthful report to misreporting team outcomes is highly positively correlated with their belief about their team members' individual dishonesty preferences. Moreover, this relation is more pronounced for women.
(b) Leader's prosociality does not affect switching behavior.

Reviewing the results from both studies, we can conclude that subjects are especially likely to switch from individual truthful reporting to dishonest reporting as leaders in environments where they can apply for leadership. This effect is more pronounced for women than for men. While dishonest behavior is different for men and women in the individual domain, the gender gap closes in the leadership domain, as women are more likely to be dishonest as leaders compared to the individual domain. Our Study 2 replicates these findings for another (online) subject pool. It demonstrates that subjects' switch is driven by the belief about team members' individual dishonesty preferences, which is particularly pronounced for women. A behavioral change from honest to dishonest reporting is most likely for subjects believing that the majority in their team has individual dishonesty preferences. By contrast, the social value orientation does not seem to have any explanatory power for the behavioral change (of women) in the leadership role. Thus, we can conclude that women increase dishonesty as leaders to adjust their behavior to their perceived team norm, closing the dishonesty gender gap.

6 Conclusion

In this paper, we analyze gender differences in ethical decision-making (dishonesty) of *leaders* in a laboratory (Study 1) and online study (Study 2). Our experiments are based on within-subjects settings with two stages in which subjects first make a report that determines their individual outcomes and then a report that determines the payoffs for their teams as leaders. We also model subjects' deliberate choice to apply for the leadership role. We can analyze whether this

choice is related to subjects' individual dishonesty preferences and whether it affects leaders' misreporting behavior for their teams.

Our laboratory experiment (Study 1) demonstrates that men behave more dishonestly than women in the individual domain, corroborating the prevailing findings (e.g., Dreber and Johannesson, 2008; Houser et al., 2012; Muehlheusser et al., 2015; Houser et al., 2016; Grosch and Rau, 2017). A novel finding of this study is that women change their behavior in the leadership role (team domain) when they can actively apply, whereas men act similarly in the individual and the team domain. Our control treatment changes the promotion procedure from the employee to the leadership role. It disables the active choice for the leadership role, i.e., all employees are in the applicant pool for the leadership role by default (similar to Erkal et al., 2022). The control treatment highlights that women's dishonesty does not differ across the individual and the team domain under these promotion procedures. Hence, women do not increase their dishonesty *per se* as a leader, but it is dependent on the type of promotion procedure.

We conducted Study 2 to find out more about the channels through which women move from individual honest reporting to dishonest reporting in the leadership role. We focus on the promotion procedure where employees can actively apply for the leadership role because only under this promotion procedure do women change their dishonesty as leaders. We analyze two potential mechanisms. The results disclose that the choice to apply for a leadership position motivates women leaders to adapt their behavior to the team members' dishonesty preferences. That is, women become dishonest in the leadership role when they believe that their team members prefer dishonesty. The second channel that we analyze are preferences for prosociality. They have no explanatory power for the increase in women leaders' increase in dishonesty.

Our paper also improves the understanding of women's (and men's) motivation to apply for leadership positions. While men with an individual preference for dishonesty tend to apply more often for leadership, women's choice to apply is independent of their preferences for dishonesty. This finding contributes to the literature examining the role of gender differences in attitudes/preferences that explain the absence of women in leadership positions, e.g., risk preferences and overconfidence (Ertac and Gurdal, 2012; Reuben et al., 2012). Our finding highlights that the gender gap in applying for leadership positions is not associated with gender differences in dishonesty preferences. Interestingly, we show that the choice to assume team responsibility motivates women to behave dishonestly as leaders despite their individual honesty preferences. Thus, this promotion procedure leads to a change in women's behavior, i.e., they give up their individual ethical preferences. This highlights the importance of promotion procedures in which women maintain their ethical preferences. When women maintain their ethical preferences in leadership roles, they contribute to higher overall ethical conduct in their companies, along the lines of Alan et al. (2022). Our findings advise companies seeking to improve their ethical conduct to adopt promotion procedures for internal promotions, in which suitable candidates for leadership positions are in the applicant pool by default. This allows women to act on their individual ethical preferences in leadership roles. Such a promotion procedure has also been shown

to make it easier for women to break the glass ceiling (Erkal et al., 2022). Thus, companies and other institutions can promote ethical behavior among their employees through the type of promotion procedures they adopt.

Adams and Funk (2012) demonstrate for Sweden's top directors that women are more benevolent and are less concerned with achievement and power than their male counterparts, which is consistent with the distribution of character traits in the general population. This finding confirms that women's traits are not always malleable, but are context-dependent. However, when a leadership role implicitly requires unethical behavior, as in our context, women may adjust their preferences. This can have a number of consequences. For example, affirmative action policies in the form of a women's quota do not necessarily lead to higher ethical standards at the leadership level *per se*. Along these lines, Larkin et al. (2013) demonstrate that a company's likelihood of appearing on the "Most Ethical Companies" list increases with the number of women on the board of directors, and that it increases substantially when the board includes 33 percent or more women. Moreover, it also provides an explanation for the finding by Nekhili et al. (2022) that board gender diversity is negatively correlated with the number of unethical business transactions. Interestingly, this negative correlation is driven by female directors involved in the board's monitoring duties (female independent directors and audit committee members) and does not apply to female internal directors. This heterogeneity across tasks might be due to the fact that female board members assigned to monitoring tasks have more positive beliefs about the dishonesty preferences of other board members than female insiders.

We conclude that decision-makers should consider that the design of the promotion procedure is relevant to ethical leadership behavior, and consequently, ethical behavior in the entire company (see e.g., Alan et al., 2022). Female executives who must adapt to leadership behaviors that do not align with their individual preferences may even face further long-term consequences. That is, changing preferences and adapting to the preferences of others may lead to higher mental stress (Gardiner and Tiggemann, 1999). To reduce higher mental stress, women may eventually give up managerial positions or work part-time, further contributing to the gender gap in leadership positions (Manning and Petrongolo, 2008). There is little causal evidence on how individual worker behavior changes when their role transforms from employee to manager. Our study is novel in this regard, has several important workplace policy implications, and may stimulate further research in the future.

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where the experiments were conducted, we obtained general approval for the experiments from the lab manager, which applies to our experiments as well. Therefore, no IRB was obtained for our experiments.

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Appendix A - Tables

Table 4: Probit regressions on misreporting team outcomes (Study 1: *endogenous leadership*).

	misreporting team outcomes					
	all		*female*		*male*	
	(1)	(2)	(3)	(4)	(5)	(6)
misreported ind. outcome	1.157***	1.088***	1.477**	1.725**	1.069***	0.828**
	(0.318)	(0.327)	(0.702)	(0.754)	(0.359)	(0.392)
female	0.030	0.074				
	(0.243)	(0.250)				
(perceived) chance of becoming a leader		0.852		0.845		1.068
		(0.664)		(0.962)		(0.998)
controls[a]	no	yes	no	yes	no	yes
obs.	144	144	75	75	69	69
pseudo R2	0.088	0.113	0.060	0.090	0.106	0.200
Standard errors in parentheses						
*** p<0.01, ** p<0.05, * p<0.1						

[a] Controls: age, whether subjects study economics, and an order dummy.

Table 5: Probit regressions on misreporting team outcomes (Study 2).

	misreporting team outcomes					
	all		*female*		*male*	
	(1)	(2)	(3)	(4)	(5)	(6)
misreported ind. outcome	1.402***	1.485***	1.259***	1.258***	1.488***	1.881***
	(0.276)	(0.291)	(0.443)	(0.452)	(0.351)	(0.423)
female	0.236	0.226				
	(0.219)	(0.222)				
(perceived) chance of becoming a leader		0.277		0.819		-0.462
		(0.589)		(0.816)		(0.912)
controls[a]	no	yes	no	yes	no	yes
obs.	156	156	80	80	76	76
pseudo R2	0.137	0.143	0.085	0.098	0.193	0.238
Standard errors in parentheses						
*** p<0.01, ** p<0.05, * p<0.1						

[a] Controls: age, and whether subjects hold a university degree.

Table 6: Probit regressions on subjects' likelihood to switch from an individual truthful report to misreporting team outcomes (Study 2)

	switch from honest to dishonest behavior					
	all		*female*		*male*	
	(1)	(2)	(3)	(4)	(5)	(6)
dishonesty belief	0.742***	0.756***	0.972***	1.043***	0.509*	0.576**
	(0.190)	(0.192)	(0.276)	(0.295)	(0.262)	(0.266)
social value orientation	0.002	0.001	-0.007	-0.007	0.009	0.001
	(0.013)	(0.013)	(0.018)	(0.019)	(0.018)	(0.018)
female	0.462**	0.439*				
	(0.229)	(0.234)				
controls[a]	no	yes	no	yes	no	yes
obs.	156	156	80	80	76	76
pseudo R2	0.118	0.132	0.154	0.163	0.054	0.154
Standard errors in parentheses						
*** p<0.01, ** p<0.05, * p<0.1						

Note: The regressions report average marginal effects.

[a] Controls: age, and whether subjects hold a university degree.

Appendix B - Complete Instructions (Study 1)

In the following, we provide the instructions that have been displayed to participants in Study 1.First, the entire set of instructions for the *endogenous treatment* is presented. Note that the only difference between the *endogenous treatment* and the *exogenous treatment* is on the last page of the Part 9 description in the subsections "How is Person A determined?" and "Procedure." Therefore, at the end of the full instructions for the *endogenous treatment*, the last page of the two conditions of the *exogenous treatment* (the case in which 2 people have a 50% chance of becoming the leader; the case in which 3 people have a 33.33% chance of becoming the leader). On top of these two pages, one can see a label of the particular instructions. That label has not been displayed to participants in the experiment.

Instructions for the experiment

You are now participating in an experiment. Please do not talk to other participants anymore. Please switch off your cell phone.

The experiment consists of **nine different parts**. In each of these parts you have to make decisions. You can earn money that depends on your own decisions and that depends on the decisions of others.

At the end of the experiment, the computer **randomly selects one of the nine parts.** This part will be **paid out**. You will also receive **€5** for your participation in this experiment. This payment is independent of the decisions in the experiment. At the end of the experiment, we will inform you about your earnings in euros, the part that was selected for payment, and the resulting total return. The total earnings will be paid out in cash. **Please take your time to make your decisions.** All decisions within the experiment will be treated anonymously.

For simplicity, we use only masculine terms in these instructions.

Part 1

In part 1 you have to choose **one** of **six** lotteries. Your income is determined based on the result A/B.

After you have decided, the computer tosses a coin. Here, outcome A or B occurs in each case with a **probability of** 50%.

The following lotteries can be chosen:

Lottery	**Result A** (coin shows head)	**Result B** (coin shows "number")
1	5,60 Euro	5,60 Euro
2	7,20 Euro	4,80 Euro
3	8,80 Euro	4,00 Euro
4	10,40 Euro	3,20 Euro
5	12,00 Euro	2,40 Euro
6	14,00 Euro	0,40 Euro

If this part is selected as relevant for payoff, we will inform you about the result of the coin toss and about the payoff achieved by the lottery at the end of the experiment.

Please raise your hand if you have any questions. In this case, we will come to your desk and answer your question.

After completing this part, you will receive the instructions for part 2.

Part 2

In part 2, the computer randomly connects you with a participant of this room. In this part, you and the participant assigned to you decide simultaneously. The identity of both participants is not revealed at any time (not even after the experiment).

Here you will find the following situation:

Person A has to decide between two money splits between him and player B. This decision must be made for 20 cases. Person B knows that Person A must make these decisions. Also, Person B knows that he cannot make any decisions and must accept Person A's decision.

The computer randomly determines the roles of the players after the end of the experiment.

Please read the following sections carefully **before making your decisions.**

The decision problems are listed in a table. Each of the decision problems looks like this:

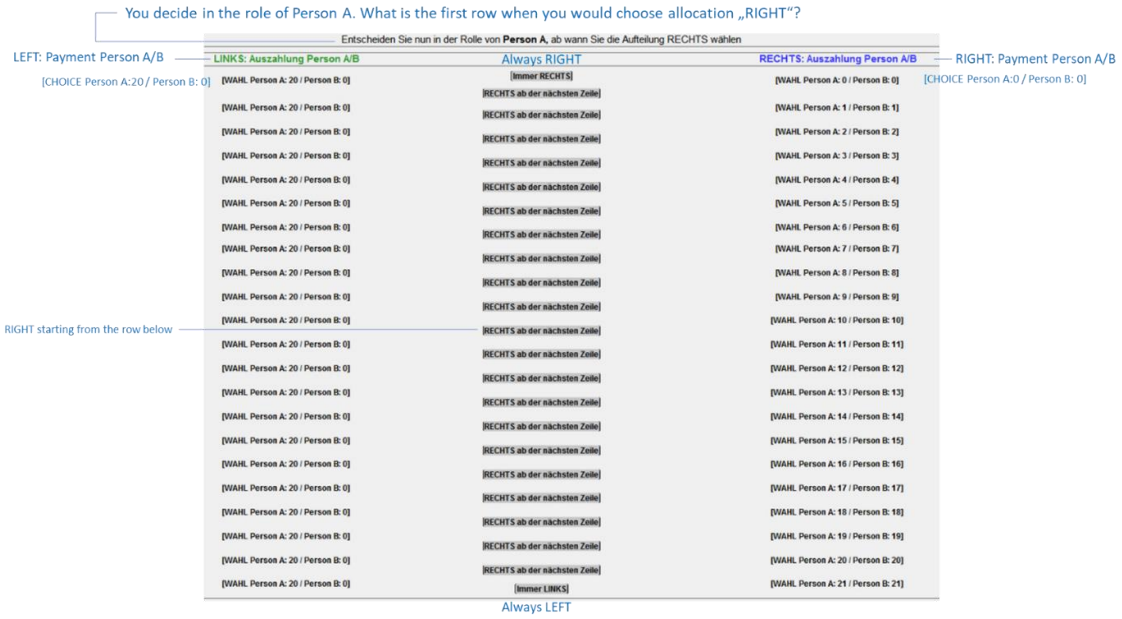
LEFT: Payoff Person A/B	RIGHT: Payoff Person A/B
[CHOICE Person A: 20 / Person B: 0]	[CHOICE Person A: 5 / Person B: 5]

Here you make your decisions in the role of Person A. In the decision problem shown above, choosing "LEFT" means that you keep 20 euros for yourself. This results in Person B receiving 0 euros. At the same time, choosing "RIGHT" means that you and Person B each receive 5 euros.

You must decide whether to select "LEFT" or "RIGHT" in each of the 22 rows. So you will be shown 23 buttons. You can set the money split from which on you would choose "RIGHT". To do this, click on the button above the corresponding row. All money splits will be marked by a color after you click on a button. All money splits where you choose "LEFT" will be marked in green. All money splits where you choose "RIGHT", on the other hand, will be marked in blue.

The first button marks all money splits with "RIGHT". The last button, on the other hand, marks all the buttons with "LEFT". All buttons in between mark all money splits (from the next row) with "RIGHT".

The screenshot on the next page shows the selection options.



At the end of the experiment, the computer randomly draws one of the 22 rows. The marked selection in this row determines your payoff in euros.

Also, the computer will randomly match you with another participant in the room. Further, the computer will randomly determine the roles of Person A and B for the participants. The assignment of participants and their roles will remain anonymous. Please note that you will make all of your decisions in the role of Person A. However, the computer may assign you the role of Person B.

If you are selected as Person A, you will receive the amount in **euros** that **you selected as Person A** in the corresponding situation. Also, the other person will receive the Euro amount you selected for Person B.

If you are selected as Person B, you will receive the **amount in euros selected by the corresponding Person B** in the given situation.

If this part is payoff relevant, you will be informed about your role, the corresponding choice and the corresponding payoff in this part at the end of the experiment.

If you have any questions, please raise your hand. In this case, we will come to your desk and answer your questions.

After completing this part, you will receive the instructions of part 3.

Part 3

In part 3, the computer randomly connects you with a participant of this room. In this part, you and the participant assigned to you decide simultaneously. The identity of both participants is not revealed at any time (not even after the experiment).

Here you will find the following situation:

Person A must choose one of 20 possible divisions of money (in euros) between Person A and B. Person B knows that Person A must make this decision. Person B can either accept or reject Person A's proposal.

- The proposal is implemented when Person B accepts Person A's proposal.
- Both persons receive 0 euros if Person B rejects the proposal.

The roles of Person A and B are randomly determined by the computer.

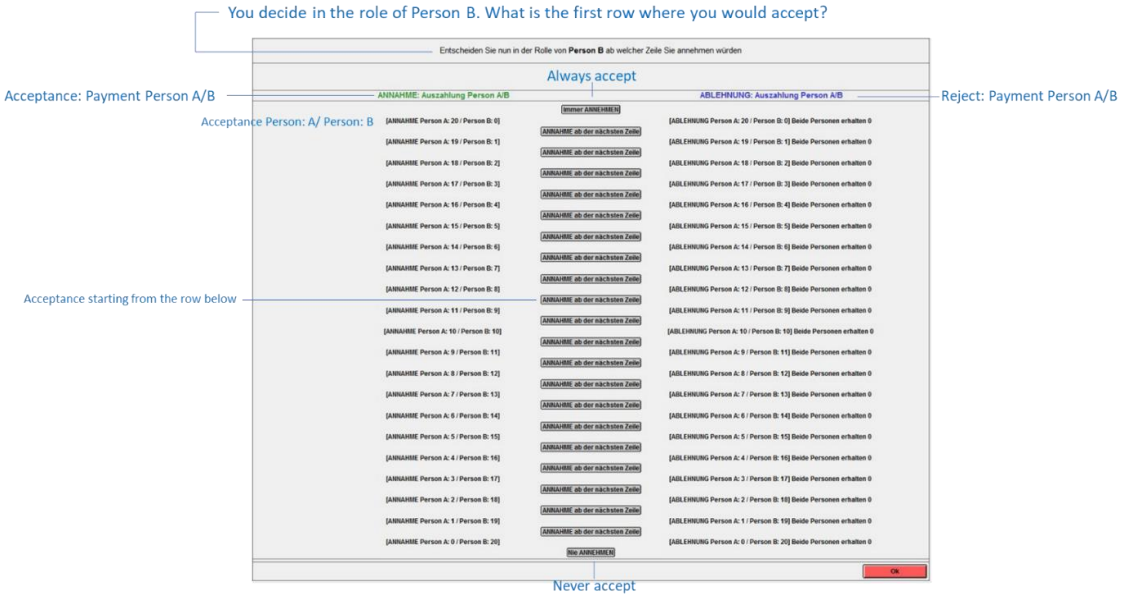
Please read the following paragraphs carefully **before making your decision.** The computer will randomly match you with a person from this room **when this part becomes payoff relevant.** In addition, the computer will randomly determine which participants will act as Person A and Person B. This role assignment will not be revealed at any time (even after the experiment). You will make your decisions in the roles of Person A and Person B.

- At the beginning you have to make a proposal in the role of Person A. The proposal must be an integer between 0 and 20 euros.
- In the next step you have to decide in the role of Person B. Here you have to decide for each of the possible 20 proposals whether you would accept or reject it.

To do this, you will be shown 21 buttons. When you click on one of the buttons, you determine the minimum suggestion from Person A that you would accept. After you click one of the buttons, the proposals will be highlighted in different colors. All proposals that you would be willing to accept are highlighted in green. On the other hand, all the suggestions that you would reject will be marked in blue.

The first button marks all suggestions with "Accept". The last button, on the other hand, marks all buttons with "Reject". All buttons in between mark all proposals (starting from the next line) with "Accept".

The screenshot on the next page shows the selection options.



Press "ok" after indicating from which line you would be ready to accept Person B's proposals. In this case, your decision will be binding.

If you were selected for the role of **Person A**, you will end up with the **payoff you chose** for yourself. This is the case if Person B accepts your proposal. **If Person B rejects** your proposal, you and Person B will each receive 0 euro.

If you are selected for the role of **Person B**, you will end up with the **payoff** that corresponds to **Person A's proposal.** If this proposal is rejected (due to your decisions), you and Person A will receive 0 euros each.

If this part is payoff relevant, you will be informed about your role, the corresponding choice and the corresponding payoff in this part at the end of the experiment.

If you have any questions, please raise your hand. In this case, we will come to your desk and answer your questions.

After completing this part, you will receive the instructions of part 4.

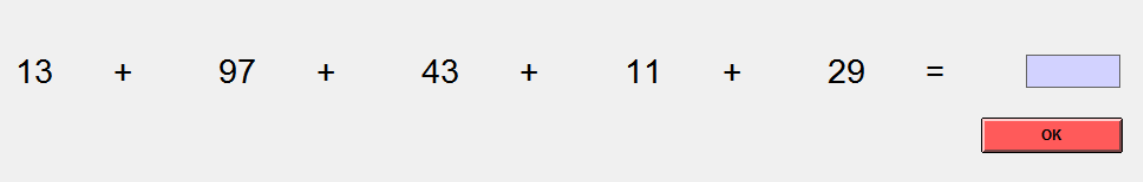
Part 4

In part 4 you have the opportunity to participate in a work task. Here you can earn money depending on the number of correctly solved questions.

Work task: functionality

- The work task is processed on the computer. You have to **calculate** the **sum of five** randomly selected **two-digit numbers**.
- You have a total of **five minutes to** calculate these totals.
- Therefore, you must not use **a calculator** or your **cell phone.**
- You will be given scratch paper and pens to do your calculations.
- You can use the keyboard to make your entries in the "Sum" field. After that click with the mouse on the button: "OK".

Below is an example that shows what a possible work assignment might look like.



Work task: compensation

- For each correctly solved question you will receive a **piece rate of 0,50 Euro.**

  If this part is payoff relevant, you will be informed about the total number of correctly solved tasks and the resulting profit at the end of the experiment. In this case, your total payoff will be the earnings in this part (number of correctly solved questions * 50 cents) plus the flat fee of 5 euros.

If you have any questions, please raise your hand. In this case, we will come to your desk and answer your questions.

After completing this part, you will receive the instructions of part 5.

Part 5

In this part you will again have the opportunity to work for five minutes on the **same** work task as in part 4. The way the work task works is identical to the one in part 4. The only difference is the way it is paid. Whereas in Part 4 you received a fixed piece rate, in Part 5 you participate in a tournament. Your earnings are determined by the tournament.

Remuneration for tournaments:

Before the work task begins, you will be randomly matched with **three** other people. You will never be told the identity of these people (not even after the experiment).

After the five minutes have expired, the computer determines the total number of questions you have correctly solved.
Unlike in Part 4, your reward now depends on your relative performance in the tournament compared to the performance of the other three people. The person with the highest number of correctly solved puzzles is the winner of the tournament. In case of a tie, the winner of the tournament is drawn by the computer.

Two cases are possible.

Case 1: You are the person who has solved the **most questions correctly compared to the** other three people**.** In this case you will receive **2 euros** for each correctly solved question.

Payoff = number of correctly solved questions * **2 euros**

Case 2: Compared to the other three people, you are **not** the person who solved the most questions correctly. You will receive a payoff of 0.00 euros.

Payoff = **0,00 Euro**

If this part is payoff relevant, at the end of the experiment you will be informed about the total number of correctly solved tasks and the resulting profit. In this case your total payoff depends on the result in this part (If you won the tournament: Number of correctly solved questions * 2 euros; If you lost the tournament: 0 euros) plus the flat fee of 5 euros.

If you have any questions, please raise your hand. In this case, we will come to your desk and answer your questions.

After completing this part, you will receive the instructions of part 6.

Part 6

In this part, you will again have the opportunity to work for five minutes on the same work task as in part 4. The way the work task works is identical to the one in part 4. The only **difference is that you can choose how you want to be paid** before you start the task. Here you can choose between piece rate and tournament.

- If you choose the piece rate, then you will receive a piece rate of 0.50 euros for each correctly solved puzzle.
- If you select tournament, you will participate in a tournament. **In this case, your performance (in this part) will be compared with the performance of the same three participants as in part 5**. Also, the same conditions apply as in part 5:

Two cases are possible.

Case 1: You are the person who has solved the **most questions correctly compared to the** other three people**.** In this case you will receive **2 euros** for each correctly solved question.

Payoff = number of correctly solved questions * **2 euros**

Case 2: Compared to the other three people, you are **not** the person who solved the most questions correctly. You will receive a payoff of 0.00 euros.

Payoff = **0,00 Euro**

If this part is payoff relevant, at the end of the experiment you will be informed about the result (and the tournament outcome, if applicable) and your earnings from the work task. In this case your total payoff corresponds to your payoff from this part plus the flat fee of 5 euros.

If you have any questions, please raise your hand. In this case, we will come to your desk and answer your questions.

After completing this part, you will receive the instructions of part 7.

Part 7

Next, you need to make decisions in a table that consists of 20 rows. The rows are numbered consecutively from 1 to 20. For each row you have to make a decision. Each of these decisions corresponds to a choice between two urns: "urn A" and "urn B". If this part is payoff relevant at the end of the experiment, the computer will randomly draw one of these rows. In this case, the decision you made in this row will determine your payoff.

Before you make your decisions in this table, you must choose between the colors "red" and "black". After you have made all your choices in the table, the computer will randomly draw a ball from one of the two urns. You will receive a payoff if the color of the drawn ball matches the color you chose at the beginning. In the table, you determine when you switch from the left column (urn A) to the right column (urn B) with your selection. More precisely, you determine the raw from which you prefer urn B over urn A in the random draw. The switch also means that for every decision you made above the switch point, the draw will be made with urn A. At the same time, it means that for every decision you made below the switch point, the draw will be made with urn B.

For example, suppose that row 9 is randomly selected to be paid out. If you switch at a later raw than row 9, urn A determines your payoff. If the drawn color of the ball matches the color you chose at the beginning, you will receive 200 thalers. However, if you switch at an earlier raw than in row 9, then urn B determines your payoff. If the drawn ball matches the color you chose at the beginning, you will receive 228 thalers. If the drawn ball does not match the color you chose, you receive 0 talers. More precisely, if a row is selected that is above your switching point, then urn A will be used to determine your payoff. On the other hand, if a row is selected that is below your switching point, then urn B will be used to determine your payoff.

In each of the 20 rows, there are **50 red and 50 black balls in urn A.** In addition, 200 thalers are paid out in urn A if the drawn ball matches the color you chose at the beginning**.** In urn A, 0 thalers are paid out if the drawn ball does not match the color you chose. Since there is a 50% chance that each of the two colors can be drawn, it follows that urn A pays out 200 thalers with a 50% chance. At the same time 0 thalers are paid out with a 50% chance.

However, there is an **unknown number of red and black balls in urn B (in total, there are 100 balls in urn B that are either red or black).** At the beginning of this part, the computer randomly determines the number of red and black balls. It also guarantees that there will be 100 balls in total. Urn B pays out a positive amount if the color of the drawn ball matches the color of the ball you selected at the beginning. Urn B pays out 0 thalers if the drawn ball does not match the color you selected. Since the probability of a particular color being drawn is unknown, the probability of urn B paying out a positive amount is also unknown. The only difference between the 20 choices of urn B are the payoffs that occur when the drawn color from urn B matches the color you chose.

In this part we apply an exchange rate of: **20 thalers = 1 €**

If this part is payoff relevant, at the end of the experiment the computer draws one of the 20 rows at random. Your decision in this row (urn A or urn B) determines your payoff. Then the computer draws a ball from the corresponding urn. If the color of the ball matches the color of your choice, you will receive the corresponding payoff (as noted in the corresponding row).

If you have any questions, please raise your hand. In this case, we will come to your desk and answer your questions.

After completing this part, you will receive the instructions of part 8.

Part 8

In this part, your earnings will be determined by reporting a payoff. To do this, you'll perform a computerized dice roll. In this case, the digital dice can land on numbers between 1 and 6.

Before you perform the dice roll, you have 20 seconds to familiarize yourself with the system and test it. In this context, you can press the key: "Roll dice" and perform any number of dice rolls. Each time you press the button, the computer will perform a new digital dice roll. You will also be able to see the result of the dice roll. After the test, a new screen will be displayed where you can perform a **single** digital dice roll. The result of the dice roll will be displayed only to you. After that you will have to report your payoff. The following amount is paid to you:

Dice roll	1	2	3	4	5	6
Payoff	€3	€6	€9	€12	€15	€0

In the following we will explain two example cases:

Example 1: You performs a dice roll and learns the corresponding number of the rolled dice. After that you indicate 9€. Then, you would receive 9€, if this part is paid at the end of the experiment.

Example 2: You performs a dice roll and learns the corresponding number of the rolled dice. After that you indicate 15€. Then, you would receive 15€, if this part is paid at the end of the experiment.

If you have any questions, please raise your hand. In this case, we will come to your desk and answer your questions.

After completing this part, you will receive the instructions of part 9.

Part 9

In this part you will be assigned to a group of 3. In this part, your earnings are determined by specifying a payoff by one person from the group of 3. The payoff is determined by a random dice roll. In the group, **one participant** is assigned the role of **Person A** and the other **two participants** are assigned the role of a **Person B**. While **Person A has** an **active role**, participants in the role of a **Person B** are **passive**.

Payment:

Person A is shown a screen on which he can perform a **single** digital dice roll. After that, Person A must indicate the payoff determined by the number of the rolled dice. Here, the payoff is determined by the number of the rolled dice as follows. The following amount is paid to each of the group participants:

Dice roll	1	2	3	4	5	6
Payoff Person A	3 €	6 €	9 €	12 €	15 €	0 €
Payoff persons B each	3 €	6 €	9 €	12 €	15 €	0 €
Total payoff	9 €	18 €	27 €	36 €	45 €	0 €

In the following, we describe two example cases.

Example 1: Person A performs a dice roll and learns the corresponding number of the rolled dice. After that, Person A indicates 9€. Then, in the payoff-relevant case of this part, each of the 3 group participants would be paid 9€ at the end of this experiment; in total, the group would receive 27€.

Example 2: A random number is rolled and Person A gives 0€. Then, in the payoff-relevant case of this part, 0€ would be paid to each of the 3 group participants at the end of this experiment; 0€ would be distributed in total.

How is Person A determined?

At the beginning of this part you will be asked if you want to act as Person A. You can answer "Yes" or "No" to this. If several participants in a group of 3 decide "Yes" (or if all participants in a group indicate "No"), a random mechanism decides on the assignment of the role of Person A. This means that the more participants in a group want to take on the role of Person A, the lower the probability that you will be assigned the role of Person A.

All persons in the group of 3 who are not assigned the role of Person A are automatically persons B.

Procedure

After all persons have indicated whether they would like to act in the role of Person A, **all** persons must decide how they would behave if **they had to act as Person A**. This applies regardless of whether the persons have previously selected that they would like to **act in the role of Person A or not.** This applies regardless of whether the people have previously selected that they would like to act in the role of Person A or not.

The behavior that people indicate will then actually be acted upon if the person were to later take on the role of Person A. Remember, even if a person has previously indicated that they do not want to act in the role of Person A, it may happen that they will later have to act in the role of Person A. This would be the case if no one has selected at the beginning that they would like to act in the role of Person A. This would be the case if no one selected to act in the role of Person A at the beginning. Then the computer would randomly draw a person who would then have to act in the role of Person A. In this case, the decision indicated by this person would then also be implemented.

After all persons have indicated their decisions in the role of Person A, the assignment of a group participant to the role A takes place as described before. The previously specified decision of this group participant in role A determines the payoff of all three members in the group, if part 9 becomes relevant for payoff.

If you have any questions, please raise your hand. In this case, we will come to your desk and answer your questions.

(*Endogenous treatment:* Case with random determination of Person A / leader with 50% probability)

How is Person A determined?

First, a mechanism determines which **two** people from your group of 3 are "active".

You will then be informed whether you are "active" or not. The computer then randomly assigns the role A to one of the two active persons. This means that this person will act as Person A.

All persons who have not been assigned the role of Person A are automatically Person B.

Procedure

In the following, all "active" persons have to decide how they would behave if **they had to act as Person A**. This applies regardless of which person is randomly selected by the computer.

The behavior that people specify is then actually implemented if the person were to later take on the role of Person A.

After all active persons have indicated their decisions in the role of Person A, the assignment of a group participant to the role A takes place as described before. The previously specified decision of this group participant in role A determines the payoff of all three members in the group, if part 9 becomes relevant for payoff.

If you have any questions, please raise your hand. In this case, we will come to your desk and answer your questions.

(*Endogenous treatment:* Case with random determination of Person A / leader with 33.33% probability)

How is Person A determined?

The computer will randomly assign the role of Person A to one person from your group of 3. This means that this person will act as Person A.

All persons who have not been assigned the role of Person A are automatically Person B.

Procedure

In the following, all persons must decide how they would behave if **they had to act as Person A**. This applies regardless of which person is randomly selected by the computer.

The behavior that people specify is then actually implemented if the person were to later take on the role of Person A.

After all active persons have indicated their decisions in the role of Person A, the assignment of a group participant to the role A takes place as described before. The previously specified decision of this group participant in role A determines the payoff of all three members in the group, if part 9 becomes relevant for payoff.

If you have any questions, please raise your hand. In this case, we will come to your desk and answer your questions.

Appendix C - Complete Instructions (Study 2)

In the following, we provide screenshots of the instructions that have been displayed to participants in Study 2. On top of the screens, one can see a label of the particular instructions. That label has not been displayed to participants in the experiment. The course of the online study was as follows:

- Subjects see the "WELCOME SCREEN"
- Subjects receive the "Instructions SVO"
- Subjects play the social value orientation (SVO): Here an "Example Screen SVO" of the first Allocation decision is displayed. The Screens for Allocations 2-6 look identical with the exception of different payoff distributions on the buttons.
- Subjects receive the "Instructions Individual Dishonesty Decision"
- Subjects play the dots game deciding for themselves
- Subjects receive the "Instructions Person A's Dishonesty Decision"
- Subjects decide whether they want to act as "Person A"
- Subjects "Belief about other's Willingness to become Person A" is measured
- Subjects are reminded, of their own "Indication of Willingness to become Person A"
- Subjects play the dots game deciding for the team as "Person A"
- Subjects receive the "Instructions Belief about Others' Individual Dishonesty"
- Subjects indicate the above-mentioned belief
- Subjects receive a short questionnaire before they are redirected to Prolific

(WELCOME SCREEN)

Welcome to our scientific study!

Brief general information

- This experiment consists of **four parts**: Part 1, Part 2, Part 3, and Part 4.
- **In each of these parts,** you have to make decisions.
- After the experiment, you will be asked to answer a short questionnaire.
- The study is expected to take approximately 10 minutes to complete.
- Your participation is completely voluntary.
- Your data will remain confidential and will be treated anonymously.
- You must be 18 years or older to participate.

Brief information on payment

- You will receive a fixed payment of £1.00 for participating in the experiment.
- You can earn additional money **depending on your decisions and depending onthe decisions of others in Parts 1-4.**
- Note that at the end of the experiment **only one of the four parts** will be randomly chosen to be paid out.

For reasons of simplicity we use in these instructions only male notions.

Please enter your Prolific ID:

(Instructions SVO)

Part 1: Instructions

In Part 1 you are **randomly matched with another participant**. You and the other participant are asked to make some allocation decisions.

You are presented six screens. On each screen you are presented allocation decisions,where you can allocate money to yourself and to the matched participant. In each allocation decision, you are asked to allocate money using a button.

If Part 1 will be paid out the payoff is determined in the following way:

- At the end of the experiment, the computer randomly chooses **one of the six allocation decisions** to be payoff relevant.
- Further, the computer randomly chooses, **whether your decision or the decision of the other participant** for that particular allocation decision determines your and the other participant's payoff.

Please choose in the following six allocation decisions, which allocations you prefer. In each allocation decision, you can choose how much money will be distributed to you andhow much money will be distributed to another randomly chosen participant, if your decisions will become payoff relevant.

Please press the "continue" button to start making your allocation decisions.After

the completion of this part you will receive the instructions for Part 2.

(Example Screen SVO)

Part 1: Allocation 1

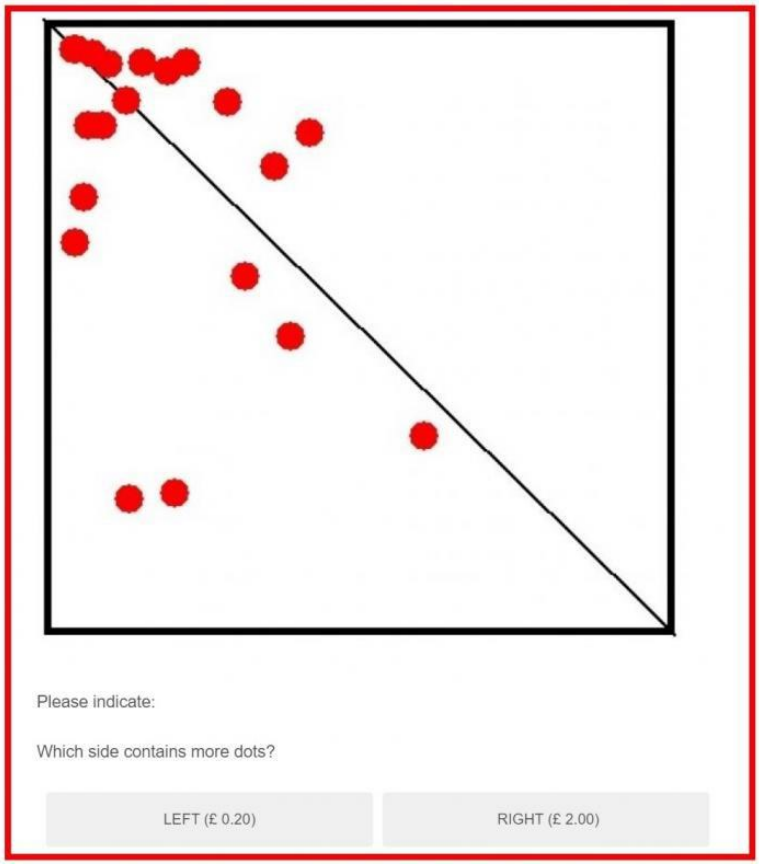
Please choose your preferred allocation.

You: **£1.28;** Other: **£1.28**	You: **£1.28;** Other: **£1.14**	You: **£1.28;** Other: **£1.02**	You: **£1.28;** Other: **£0.89**	You: **£1.28;** Other: **£0.75**	You: **£1.28;** Other: **£0.62**	You: **£1.28;** Other: **£0.50**	You: **£1.28;** Other: **£0.36**	You: **£1.28;** Other: **£0.23**

(Instructions Individual Dishonesty Decision)

Part 2: Instructions

- In Part 2, you will see a box containing multiple red dots (see example below).
- Your task is to indicate whether there are more dots on the right side of the square or on the left side of the square.
- (Note that it is possible that a dot will be on the line between the two sides.)
- If Part 2 will be paid out, your payoff is determined by your indication regarding the dots in the following way:
  - If you indicate LEFT, your payoff is £0.20.
  - If you indicate RIGHT, your payoff is £2.00.



Please press the "continue" button to make your decision.

After the completion of this part you will receive the instructions for Part 3.

(Instructions Person A's Dishonesty Decision)

Part 3: Instructions

Please read the complete instructions carefully. Scroll down if necessary.

Overview

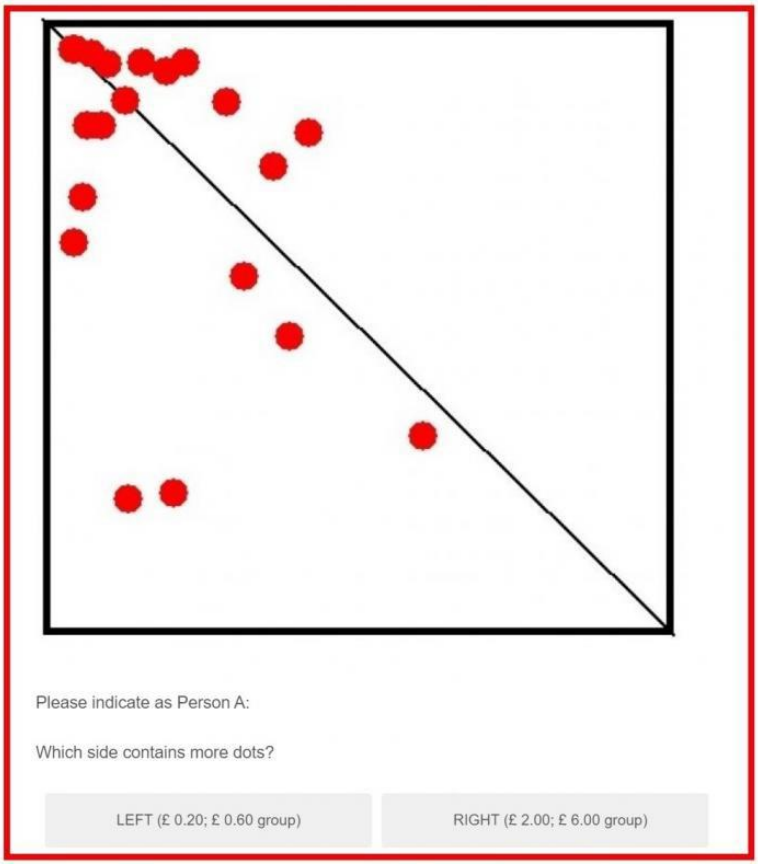
- In Part 3, you will be matched in a **group of three** people.
- In the beginning of Part 3, each group member will be asked whether he wants to actas Person A.
- You can reply to this question with "yes" or "no."
- **Only at the end** of the experiment, **one of the three** group members **will eventually become Person A**, while the remaining group members will become Persons B.
- After all group members have responded to the above-mentioned question (either by"yes" or by "no"), **all** of them have to act **as Person A** without knowing, whether theywill eventually become Person A.
- **Note that the decision of the one group member, who will eventually become Person A determines his payoff as well as the payoff of the other two group members (Persons B).**

How is Person A determined?

- Your and the other two group members' response to the question, whether you want to act as Person A determines who will eventually become Person A.
    - If all three group members said "yes" or if all three group members said "no" a random draw decides who of the three group members will become Person A.
    - If two group members said "yes" a random draw decides who of these two group members will become Person A.
    - If one group member said "yes" that group member will automatically become Person A.
- All group members, who do not become Person A, automatically become Persons B.

Acting as Person A

- You will see a **new box** containing multiple red dots (see example below) and without knowing, whether you will become Person A you have to **make an indication as Person A**.
- (Note that it is possible that a dot will be on the line between the two sides.)
- Your task is to indicate whether there are more dots on the right side of the square oron the left side of the square.
- If Part 3 will be paid out and if at the end of the experiment you will become Person A**your payoff (as Person A) and the payoff of the two group members** being Persons B is determined by your indication regarding the dots in the following way:
    - If you indicate LEFT, your payoff as Person A is £0.20. The payoff of each Person B is £0.20. Hence, the total payoff (group) is £0.60.
    - If you indicate RIGHT, your payoff as Person A is £2.00. The payoff of each Person B is £2.00. Hence, the total payoff (group) is £ 6.00.



Please press the "continue" button to make your decisions.

After the completion of this part you will receive the instructions for Part 4.

(Measure of Belief about other's Willingness to become Person A – before deciding as Person A but after own Indication of the Willingness)

Part 3: Additional question

How many of your two other group members do you think stated that they want to act as **Person A**? If your guess is correct, you will receive **£0.30 extra**, if Part 3 will be paidout.

0 group members	1 group member	2 group members

(Reminder of own Indication of Willingness to become Person A – both Variants printed here)

Part 3: Reminder

You have responded to the question, whether you want to act as Person A by **"no"**.

- If **at least one** of your group members said "yes", the computer will randomly selectone of the group members who said "yes" to become Person A.
- If **no** of your group members said "yes", the computer will randomly select one person from **all** three group members to become Person A.

You have responded to the question, whether you want to act as Person A by **"yes".**

- If **at least one** of your group members said "yes", the computer will randomly selecteither you or one of the other group members who said "yes" to become Person A.
- Otherwise the computer will select you directly to become Person A.

(Instructions Belief about Others' Individual Dishonesty)

Part 4: Instructions

Short reminder of the Parts 1-3

- In Part 1 you were asked to make six allocation decisions between you and a randomly matched participant.
  - If Part 1 will be paid out and your decision will be randomly chosen to be payoff relevant, it determines your payoff and the payoff of the matched participant.
- **In Part 2 you were asked to indicate whether there were more dots on the rightside of a square or on the left side of a square.**
  - **If Part 2 will be paid out that indication determines your payoff.**
- In Part 3 you were asked to say, whether you wanted to act as Person A and to indicate as Person A whether there were more dots on the right side of another square or on the left side of that square.
  - If Part 3 will be paid out and if you will become Person A that indication determines your payoff (as Person A) and the payoff of your two group members (Persons B).

Your task in Part 4

- In Part 4 you are asked to guess how many of your two group members you think indicated "RIGHT (£ 2.00)" **in Part 2** of the experiment.
- Afterwards, the computer checks, whether your guess about the group members' indication is correct.
- If Part 4 will be paid out, your payoff is determined by your guess in the followingway:
  - If your guess is correct, your payoff is £2.00.
  - If your guess is not correct, your payoff is £0.00.

Please press the "continue" button to start stating your guesses.

After the completion of this part you will receive no further instructions. However, you willbe asked to answer a few questions.