

# (De)Motivational Effects of Feeling (Dis)Trusted

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# (DE)MOTIVATIONAL EFFECTS OF FEELING (DIS)TRUSTED

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## ABSTRACT

We investigate how workers' motivation is influenced by whether they feel trusted or not by managers. In a laboratory experiment, responsibility for a manager's earnings is divided unequally between two workers. We vary whether this decision is made by the manager or a random device on the manager's behalf. Importantly, having more/less responsibility does not affect the workers' wages. Despite this, we find that workers provide less effort when they are deliberately, vs. randomly, assigned lower responsibility. We find a smaller, less robust positive effect of learning one is more trusted. We examine two inter-related mechanisms and show that both beliefs about expected effort as well as emotions triggered when learning about the manager's decision help explain our results.

**Keywords:** trust, vulnerability, motivation, social comparison

*JEL Classification:* C90, D23, D91, J53

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## I INTRODUCTION

In firms, negative feelings of employees towards their employer or manager may arise from a number of sources, one of which is the perception that they are distrusted or under-valued relative to their peers. This can be inferred from everyday decisions and interactions in the firm, for e.g., a manager publicly recognizing some employees' contributions but not others, developing more informal relationships with a subset of employees or choosing to allocate more important tasks to specific employees. These social cues can shape how trusted or valued employees feel, and in turn influence their motivation and behavior. In this paper, we aim to isolate this effect by establishing a clear causal link between a manager's preference to entrust more responsibility to certain employees — a decision that is materially inconsequential for the employees but consequential for the manager's own payoff — and the reciprocal response of those who perceive they are trusted as well as distrusted.

To quantify the effect of feeling less trusted, we design a framed laboratory experiment in which a manager's relative trust in two employees is expressed through their willingness to become more vulnerable to one employee's decision after observing responses to a set of task-irrelevant personality questions. This operationalization follows established definitions of trust in the economics and management literature, which characterize it as “*a willingness to accept vulnerability to others based on positive expectations about their behavior*” (Hong and Bohnet, 2007; Mayer et al., 1995; Rousseau et al., 1998). The manager's trust is based on arbitrary employee attributes, consistent with a broader view in the social sciences that trust is specific to the trustor–trustee relationship rather than a stable, invariant trait.<sup>1</sup>

In the experiment, participants are divided into “firms” consisting of one “manager” and two “employees”. Employees are all paid a fixed wage and are additionally endowed with a certain number of effort points that they can keep for themselves or send to the manager. Sending effort points to the manager costs the same for all employees but has varying benefits for the manager: the effort points of one employee in the firm is always worth five times more to the manager than the effort points of the other employee. Since managers' earnings are entirely dependent on the effort points sent to them by the two employees, deciding one of their effort points is worth five times more signals the manager's willingness to become more vulnerable to this employee.

To isolate the impact of the manager's decision on the more and less trusted employees, we use two experimental treatments, namely, the *Deliberate* and the *Random* treatments. In the *Deliberate* treatment, the manager views the employees' responses to four personality questions

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<sup>1</sup>Evidence supporting such a case-specific, vulnerability-based measure of trust is provided by McEvily et al. (2012), who show that when the target of trust is fixed, behavioral measures of vulnerability-based trust correlate more strongly with attitudinal measures commonly used in other social sciences.

before selecting which of their effort points will be more important for her/his earnings. To avoid endogeneity issues, these questions were specifically chosen to be uninformative about employees' prosocial tendencies (see Section II for details). We note here that the manager's decision to make one employee more important for her/his earnings does not have any consequence for the employees' fixed wages nor for the multiplier assigned to the effort points the employees retain for themselves. In the *Random* treatment, a random device makes the decision about the employees' relative importance for the manager's earnings on the manager's behalf.

Depending on the multiplier assigned to their effort points, employees thus fall into the following 4 experimental conditions: *Deliberate & Low Importance* and *Random & Low Importance* for employees whose effort points are multiplied by 1 when sent to the manager, and *Deliberate & High Importance* and *Random & High Importance* for employees whose effort points are multiplied by 5 when sent to the manager. By comparing the *Deliberate* and *Random* conditions within a given level of importance, we are thus able to hold responsibility for managers' earnings constant and isolate the effect of the manager's intention to make one employee more important for her/his earnings.

Our main finding is that employees whose effort points were deliberately, rather than randomly, assigned the lower multiplier provide less effort for the manager. This effect arises even though receiving the lower multiplier does not affect employees' fixed wages or the value of effort points they retain for themselves. Thus, just learning that the manager intentionally assigned them a lower importance role is sufficient to reduce the number of effort points they allocate to the manager. In contrast, we are unable to confirm a positive effect of the manager's decision among employees assigned the higher multiplier. In other words, while perceived distrust reduces prosocial behavior, perceived trust does not appear to symmetrically increase it.

We explore two interlinked mechanisms that may have driven the effect of the *Deliberate* treatment on low importance employees. First, we explore a belief-based mechanism: we conjectured that in line with the theory of guilt aversion (Battigalli and Dufwenberg, 2007), low importance employees in the *Deliberate* condition would believe managers expect less from them relative to their counterparts in the *Random* condition, and thus have less reason to believe they were letting the manager down by sending them a low number of effort points. Post making their choice, we thus asked employees across all experimental conditions how many effort points they thought managers expected from them, and find suggestive evidence that this belief-based mechanism drives the negative effect of the manager's decision on the low importance employees.

It is also possible that the employees who were deliberately assigned the lower importance role had a negative *affective* response when they learned about the manager's decision and

subsequently behaved more unkindly toward the manager. This reaction would be consistent with the [Cox et al. \(2007\)](#) theory of intention-based reciprocity, according to which a second-mover’s emotional state determines the marginal rate of substitution between their own and the first-mover’s payoff. This emotional state is influenced by the first-mover’s actions, which in this instance would be the manager’s deliberate choice to become more vulnerable to the other employee. To test whether this mechanism was in play as well, research assistants blind to experimental condition rated employees’ responses to a text-based question about how they *felt* when they learned about the manager’s decision. On analyzing these ratings, we find evidence that this affective mechanism may also play a role in explaining the difference in effort provided by the low importance employees in the *Deliberate* and *Random* conditions.

Our study is closely related to the literature investigating the effects of social comparisons in firms. Experimental studies on this topic have explored how workers respond to information about their co-workers’ wages ([Bartling and Von Siemens, 2011](#); [Breza et al., 2018](#); [Charness et al., 2016](#); [Clark et al., 2010](#); [Gächter and Thöni, 2010](#); [Greiner et al., 2011](#); [Nosenzo, 2013](#)), the duration of their co-workers’ contracts ([Angelova et al., 2012](#)), and whether their co-workers have the power to choose their own wages ([Charness et al., 2016](#)). While some studies do not find strong effects (see for e.g., [Charness and Kuhn, 2007](#); [Gächter et al., 2012](#)), most find that holding constant the absolute level of the workers’ incentives (i.e., the wage, contract duration, or power to determine one’s own wage), revealing to workers that they are in a worse position than their peers lowers the amount of costly effort they are willing to provide. A similar response to incentive transparency has been found in field studies and observational data ([Burchett and Willoughby, 2004](#); [Card et al., 2012](#); [Cohn et al., 2014](#); [Kube et al., 2013](#); [Obloj and Zenger, 2017](#); [Ockenfels et al., 2015](#)).

Consistent with our own results, most studies also find an asymmetric response to this type of information, i.e., while finding out one is in a worse position has a strong negative impact, learning one is in a *better* position than one’s peers does not have a comparably strong positive impact on workers’ motivation. We extend this line of research by studying the effect of being more or less trusted by the manager but holding wages constant between these two sets of workers. By doing so, we are able to rule out that material reciprocity concerns toward the manager drive workers’ subsequent behavior and uncover a deeper psychological mechanism that may have contributed to the effect of wage-comparison information observed in previous work.

Related to our study is the field experiment of [Glover et al. \(2017\)](#) who find that minority cashiers at a French grocery store work fewer hours when assigned to managers who are biased against minorities vs. when assigned to unbiased managers. Similarly, in their experiment, [Gagnon et al. \(2020\)](#) show that for given wages, workers who are disadvantaged by explicit

gender discrimination reduce their supply of labor compared to a no-discrimination, equal wage setting. Taken together, this is evidence that beyond material incentives, employees care about their relative value in the manager’s eyes. In this paper, we test this mechanism directly by informing employees that their manager views them as less trustworthy than their peers based on some irrelevant personal information about them.

Our study also contributes to the experimental economics literature that examines the effect of perceived distrust on altruistic effort provision. These studies typically rely on designs in which distrust is conveyed through explicit control measures, such as a principal imposing a binding minimum effort requirement (Falk and Kosfeld, 2006) or introducing a strict monitoring protocol (Belot and Schröder, 2016). In this study, we examine a different source of perceived distrust, namely the information that a manager places greater trust in an employee’s peers. Although more subtle, this form of distrust is arguably more prevalent, as it is difficult to conceal and can be inferred from routine managerial decisions. This also stands in contrast to wage or bonus comparison information, which employees are often discouraged or actively prevented from discussing.

Most closely related to this paper is the laboratory experiment by Brandts et al. (2006), in which a principal selects one of two agents to trust based on their responses to a set of personality questions. The authors find that agents are more generous toward the manager when they are deliberately selected than when their selection is determined randomly. However, just as in the wage-comparison studies and the laboratory experiments that examine the effect of perceived distrust, their design cannot disentangle agents’ material reciprocity motives from the effect of being more trusted than one’s peers. In addition, it does not address the potentially demotivating effect of learning one is *less* trusted than one’s peers. Our experimental design addresses these issues by first removing the material advantages associated with being trusted and second by eliciting the responses of not only the ‘selected or trusted employees but also those who were *not* selected or assigned the lower-importance role.

In addition to contributing to the academic literature on employee motivation, our findings have important practical implications. By quantifying the demotivating effect of feeling undervalued by an authority figure, we highlight that managers must pay attention not only to workers’ material incentives but also to the psychological channels shaping effort provision. In particular, subtle social cues, such as how managers differentially treat employees, can meaningfully influence motivation, even in the absence of any change in material wages or incentives.

The remainder of this paper is organized as follows: Section II describes our experimental design, Section III presents the results and Section IV concludes.

## II EXPERIMENTAL DESIGN AND PROCEDURES

The experiment was conducted in November and December 2020 at the Masaryk University Experimental Economic Laboratory (MUEEL) in Brno, Czech Republic. In all conditions, participants sequentially completed the same four parts of the experiment illustrated in Figure 1. All instructions appeared on the participants' computer screens. The complete experiment instructions can be found in Appendix B.

**Part A:** In this part, participants were assigned to firms consisting of three members: a manager and two employees. Before they received further instructions, all participants answered four personality questions:

1. Have you often **lied** for personal benefit in the heat of the moment (1 = yes, 0 = no)
2. If you had to choose, which do you think is more important in a **discussion** (1 = being honest, 0 = making people feel comfortable)
3. How do you like to **travel** (1 = I like to plan ahead, 0 = I prefer to be spontaneous)
4. Do you mind being the center of **attention** (1 = yes, 0 = no)

In the *Deliberate* condition, managers saw the employees' responses to these questions before they decided which employees' effort points would be assigned the higher multiplier in Part C. Employees in this condition could thus believe there was a concrete reason for the manager's trust or lack thereof.

We carefully chose the above questions for two reasons. First, it was important that employees believed their responses to these questions were relevant for the manager's decision. Based on the results of a small pilot<sup>2</sup>, we thus dropped a question about pet preference because participants in the pilot believed it was the least likely (of six questions) to have played a role in the manager's decision. Second, to prevent imbalance in the selection of employees into the different experimental conditions, we also needed to ensure these questions did not convey any information that managers might actually rely on when making their decisions. We thus selected questions that could not predict altruistic tendencies and that would not result in imbalances across our experimental conditions.<sup>3</sup> Indeed, we are able to verify that for the

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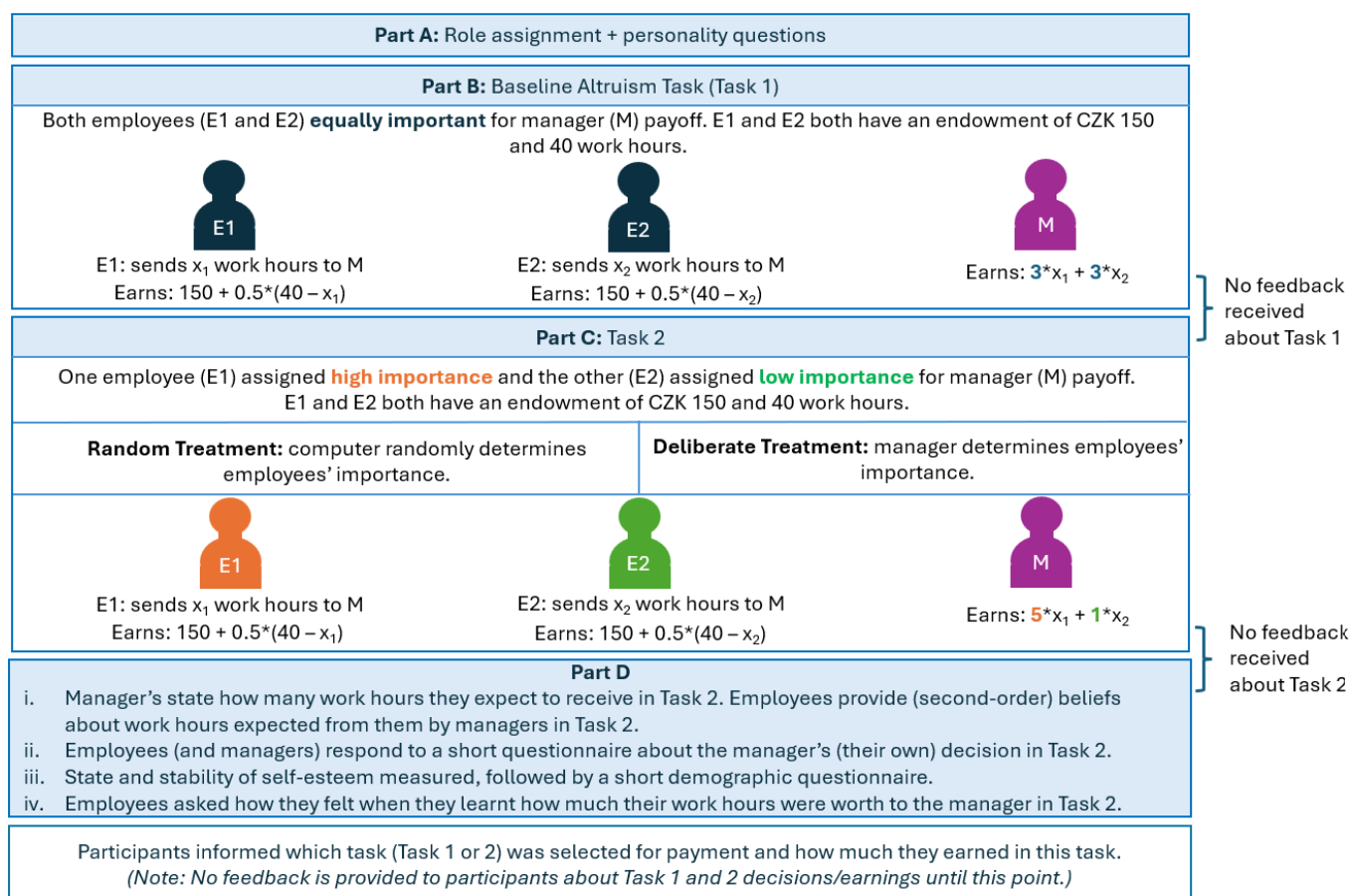
<sup>2</sup>In the pilot, we collected data from a total of 72 participants: 12 in each of our 4 conditions. The design of the pilot was identical except for two additional personality questions.

<sup>3</sup>The responses to all six questions used in the pilot were uncorrelated with altruism ( $N = 48$ , Spearman's rho (rs):  $-0.196$ ,  $-0.017$ ,  $-0.124$ ,  $-0.055$ ,  $0.027$ ,  $-0.055$  for Q1-6 respectively, with the null hypothesis of independence failing to be rejected in all six cases). We dropped Q1, which was a question about whether one experienced moments of superiority, because the pilot data revealed there was a difference of 33 percentage points between high and low importance employees answering this question in the affirmative in the *Deliberate* condition.

participants in the main study, the responses to the final four questions are predictive of neither their altruistic tendencies<sup>4</sup> nor their reciprocal tendencies<sup>5</sup> toward the manager.

Following Part A, participants were informed they would be engaging in two tasks (in Part B and Part C) of which one would be randomly selected for payment at the end of the experiment. They were unaware of what the second task would entail at the time of completing the first one.

FIGURE 1: EXPERIMENTAL DESIGN.



**Part B:** In this part, all participants completed Task 1 or the baseline altruism task. The objective of this task was to allow us to establish a baseline level of employees' altruism toward

<sup>4</sup>In Table A1 of Appendix A, we show that there is no correlation between employees' Task 1 effort provision and any of the individual personality questions, and that these questions also cannot *jointly* predict the employees' Task 1 effort provision (F-test,  $p = 0.205$ ).

<sup>5</sup>Employees' responses to the personality questions in the *Deliberate* condition do not jointly predict the *change* in work hours they sent to the manager from Task 1 to Task 2 for either the low or high importance employees (F-test: low importance:  $p = 0.569$ ; high importance  $p = 0.172$ ).

the manager. It further allowed us to establish an initial belief in employees' minds of being perceived as equal by the manager, thus mimicking the situation in actual firms in which prior to learning otherwise, employees have no reason to believe they are perceived differently by the manager. In this task, employees received a flat wage of CZK 150 ( $\approx$ EUR 5.70) and were additionally endowed with 40 "work hours" (or effort points). Each work hour employees kept for themselves was multiplied by 0.5 and added to their earnings in CZK. Employees could choose to send any integer amount of their 40 work hours to the manager. Work hours sent by employees were multiplied by 3 on the way to the manager. Managers made no decisions in this task and their earnings from this task (in CZK terms) consisted of 3x the sum of the work hours they received from the two employees. Neither managers nor employees received feedback about the manager's earnings after Task 1 and managers did not learn how much effort either of the two employees provided in Task 1.

**Part C:** In this part, all participants completed Task 2 in which we implemented the main treatment manipulation. Employees again received a flat wage of CZK 150 and were endowed with 40 work hours. This time, however, for those assigned to the *Deliberate* condition, the managers of the firms decided how much the two employees' work hours would be worth if sent to them, under the constraint that the sum of the two multipliers added up to 6. The manager's choice-set was limited: managers could either have a multiplier of 1 assigned to the work hours employee 1 sent to them and a multiplier of 5 assigned to the work hours employee 2 sent to them or vice versa. Meanwhile the multiplier assigned to the work hours employees kept for themselves was the same as in the baseline altruism task and equal to 0.5. Employees were not informed of the limited choice-set of the manager. Instead, the text that employees read was as follows: "*From the options available to her/him, the manager of your firm decided...*" (see Appendix B, for the screen seen by employees at this stage). Though we could have revealed the managers' precise choice set to employees, we wanted to leave it ambiguous so as to model a workplace situation in which a manager's behavior (in this case, represented by their task allocation decision) is perceived by the employees as avoidable thus making the under-valuing (or distrust) of one employee more salient.

For participants in the *Random* condition, a random device determined whether the work hours employees sent to the manager would be multiplied by 5 or 1. To keep things as similar as possible, we also did not make employees aware of the choices available to the random device. In this condition as well, employees' work hours were worth 0.5/work hour if kept for themselves.

Employees were thus randomly assigned to either the *Deliberate* or *Random* conditions, and then within these conditions, to either *Low* or *High* importance. In the *Deliberate* condition, managers viewed the employees' responses to the personality questions before allocating the multiplier but this decision did not result in the selection of more prosocial or reciprocal em-

ployees into the high importance condition or conversely, the selection of less prosocial or more negatively reciprocal employees into the low importance condition.

Since possible imbalances in employee characteristics among the different experimental conditions may have still arisen<sup>6</sup>, in the main regressions, we conduct robustness checks controlling for all observed characteristics of employees, and always include as a control their effort provision in the baseline altruism task (Task 1). All our results survive these robustness checks.

**Part D:** In this part, participants completed a series of post-experimental questionnaires. First, we elicited beliefs. Managers were asked to guess how many work hours they estimated the low and high importance employees would send them and employees were asked to guess how many work hours they thought the manager believed they would send them (i.e., their second order beliefs). Neither the beliefs of managers nor that of the employees was incentivized.<sup>7</sup> Following this, managers and employees in the *Deliberate* condition answered a multiple choice question about how they (i.e., the managers) allocated responsibility between the two employees.

Participants then answered two short questionnaires created and validated by [Heatherton and Polivy \(1991\)](#) and [Altmann and Roth \(2018\)](#) to measure the state and stability of self esteem respectively. Finally, low and high importance employees in both the *Deliberate* and *Random* conditions were asked to briefly describe how they *felt* when they learned how much their work hours would be worth to the manager.

The study design, hypotheses and analyses were pre-registered prior to the execution of the experiment.<sup>8</sup>

Our main pre-registered hypothesis concerns Task 2 effort provision of low importance employees in the *Deliberate* and *Random* conditions. This hypothesis was formed based on the evidence that people tend to react negatively to signals of distrust ([Belot and Schröder, 2016](#); [Falk and Kosfeld, 2006](#)) and that employees respond negatively when forced to make upward social comparisons ([Cohn et al., 2014](#); [Gächter and Thöni, 2010](#)). Accordingly, in the current study, we predicted that finding out the manager deliberately placed more trust in the other employee would have a negative effect on effort provision relative to the situation where the same decision was made by a random device on the manager’s behalf.

One way that such a decision might affect employees’ behavior is by lowering their beliefs of how much effort managers expected from them (i.e., their second order beliefs or SOBs).

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<sup>6</sup>In Table A.2 of Appendix A, we report differences in all observed employee characteristics including their Task 1 behavior, first for the low importance employees in the *Random* and *Deliberate* conditions (column 3 of Table A.2) and then for the high importance employees in the *Random* and *Deliberate* conditions (column 6 of Table A.2).

<sup>7</sup>We decided against incentivizing beliefs since our primary focus was on choices.

<sup>8</sup>The pre-registration was uploaded on AsPredicted.org (ID: 52513 date: 13 Nov 2020), and can be found at: <https://aspredicted.org/SH3.JD8>.

In particular, if low importance employees in the *Deliberate* condition had lower second order beliefs relative to their counterparts in the *Random* condition, then they would feel less guilty about providing less effort for their managers. Another possibility could be that learning the manager deliberately chose to entrust more responsibility to the other employee induces a negative emotional experience that in turn causes these employees to care less about the manager's payoff. In both cases, the result would be a reduction in effort provision for the manager in the *Deliberate* condition compared to the *Random* condition.

**Hypothesis 1** *Low importance employees in the Deliberate condition provide less effort for the manager than low importance employees in the Random condition.*

Our next hypothesis concerns Task 2 effort provision of high importance employees in the *Deliberate* and *Random* conditions. Previous work on revealing wage comparison information indicates no effect on satisfaction levels (Card et al., 2012; Ockenfels et al., 2015) or performance (Breza et al., 2018) of learning one is in a *better* position than one's peers. It is even possible that high-importance employees who perceive the manager's decision to be somehow unfair would respond by *reducing* the amount of effort they provide for the manager relative to their counterparts in the *Random* condition, which would be consistent with Nosenzo (2013). Others, e.g. Brandts et al. (2006) and Sseruyange and Bulte (2020), find that learning one is in a better position has a positive effect. The previous literature thus does not suggest a clear directional hypothesis in the case of the high importance employees. Accordingly, we registered the hypothesis below as exploratory and non-directional.

**Hypothesis 2** *There is a difference in the effort provided by high importance employees in the Deliberate condition and their counterparts in the Random condition.*

Our last hypothesis concerns the effect of the *Deliberate* condition on the *total* work hours received by managers. Since we expected the *Deliberate* condition to have a strong negative effect on the work hours sent by the low importance employees and a weak, if any, positive but potentially even negative effect on the work hours sent by high importance employees, we conjectured that overall, managers in the *Deliberate* condition would receive fewer work hours relative to their counterparts in the *Random* condition. However, given our non-directional hypothesis in the case of the high importance employees, this last hypothesis was registered as exploratory as well.

**Hypothesis 3** *There is a negative effect of the Deliberate condition on the total work hours received by the manager.*

Per our pre-registered analysis plan, the regressions that test the first two hypotheses always control for employees' effort provision in the baseline altruism task. We also conducted various robustness checks controlling for employee demographics, the state and stability of self-esteem, and the responses to the personality questions from Part A. We note that since Task 2 is different from Task 1 in terms of the multiplier assigned to employees' effort points (3 in Task 1, and 1 or 5 in Task 2), we did not pre-register the use of a difference-in-difference regression analysis.

## II.A Procedures

Participants were recruited using hroot (Bock et al., 2014) from the subject pool of the Masaryk University Experimental Economic Laboratory (MUEEL) in Brno, Czech Republic. The study falls under the blanket ethical approval for incentivized economic experiments at Masaryk University and therefore did not require separate project-specific approval. Since the physical experimental economics laboratory at the university was closed due to the COVID-19 pandemic, the experiment was implemented online with live interaction using z-Tree Unleashed (Duch et al., 2020). In order to simulate laboratory-like conditions and to ensure participants stayed active throughout the experiment, all experiment sessions were conducted via Zoom and all participants were required to stay in the virtual Zoom room until the end of the experiment. When checking participants in to the experiment, each was asked to briefly turn on their video to verify their identity and to ensure they were in a quiet location without outside distractions.

After being checked in, participants were directed to a virtual waiting room where they were instructed to turn off their video and microphone. While in the waiting room and throughout the experiment, participants could neither see each other nor communicate with one another via chat. If they had a question at any point, they could only address it to the experimenter directly using Zoom's private chat feature.

A total of 29 virtual experimental sessions were conducted and data was collected from a total of 452 participants (151 managers and 301 employees).<sup>9</sup> Participants had a mean age of 23 years and 50.22% were female. Each experiment session lasted for approximately 20 minutes and all payments were made via bank transfer within 48 hours of participation. The average payment was approximately EUR 5.77, which was well above the hourly minimum wage in the Czech Republic at the time.

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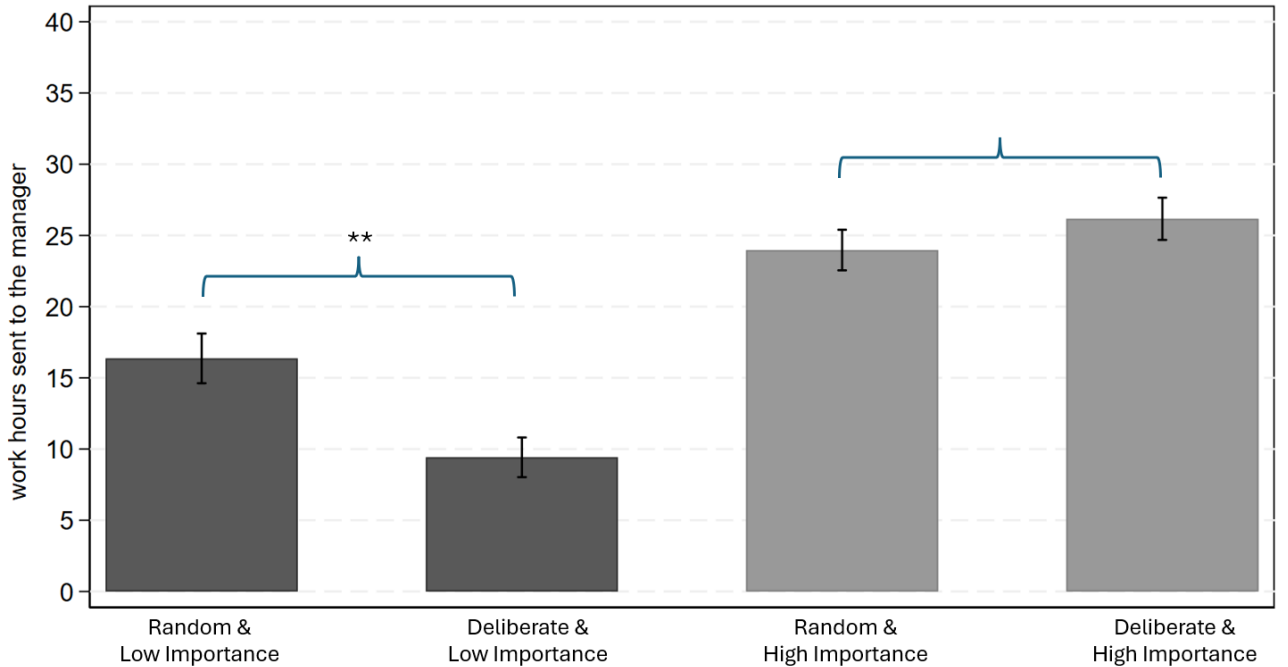
<sup>9</sup>There were initially 456 participants in total (i.e., 152 managers and 302 employees) but the data from 4 participants (1 firm in the *Random* condition and one low importance employee in the *Deliberate* condition) had to be dropped because of technical issues that prevented key choices from being recorded. The data from the remaining two members of the firm where a single employee's data point had to be dropped was still usable because the remaining two members of the firm were unaware of their peer's technical issue.

### III RESULTS

The data set consists of 153 observations for employees in the *Deliberate* condition (77 *High* importance and 76 *Low* importance, see footnote 9) and 148 observations for employees in the *Random* condition (74 *High* importance and 74 *Low* importance).<sup>10</sup>

Figure 2 displays the aggregate Task 2 work hours sent by high and low importance employees in the *Deliberate* and *Random* conditions. Since sending work hours to the manager is costly for the employee, self-interested employees should seek to maximize their payoffs by not sending any work hours to the manager. However, in line with a large body of experimental evidence documenting individuals' other-regarding preferences, the employees in our study do send a positive amount of work hours to managers.

FIGURE 2: AGGREGATE WORK HOURS SENT BY EMPLOYEES BY EXPERIMENTAL CONDITION.



Additionally, given the greater benefit received by the manager from the work hours sent by the high importance employees, it is unsurprising that high-importance employees in the *Random* condition send the manager significantly more work hours on average than the low importance employees in this condition (mean work hours sent by high and low importance

<sup>10</sup> Assuming a medium effect size (Cohen's  $d = 0.5$ ) and 90% power (conservatively), we estimated we would need 85 observations in each of our 4 conditions. However, we had to stop data collection before we reached this number as we had exhausted the student subject pool.

employees in the *Random* condition are 23.97 and 16.36 respectively; two-tailed t-test,  $p < 0.05$ ). This result is consistent with studies on charitable giving that show that giving decisions are influenced by the size of the benefits received by the target (Eckel and Grossman, 2003, 2008; Karlan and List, 2007; Meier, 2007).

In line with the main hypothesis, Figure 2 suggests that the manager’s deliberate decision had a negative impact on the work hours sent by the low importance employees (mean work hours sent by low importance employees in the *Deliberate* and *Random* conditions are 9.42 and 16.36 respectively; t-test,  $p < 0.01$ ). We also note a weak positive effect of the *Deliberate* treatment on the work hours sent by the high importance employees, albeit not reaching conventional levels of statistical significance (mean work hours sent in the *Deliberate* and *Random* conditions are 26.17 and 23.97 respectively; t-test,  $p = 0.14$ ). Figure 3 shows a similar pattern: the cumulative distribution function (CDF) of work hours sent by the low importance employees in the *Random* condition first order stochastically dominates that sent by the low importance employees in the *Deliberate* condition (two-sample Kolmogorov-Smirnov test produces  $p < 0.05$ ). The same does not hold for the high importance employees in the *Deliberate* and *Random* conditions (Kolmogorov-Smirnov test,  $p = 0.176$ ).

FIGURE 3: CDFs OF WORK HOURS SENT BY LOW IMPORTANCE EMPLOYEES (LEFT) AND HIGH IMPORTANCE EMPLOYEES (RIGHT) IN THE *Deliberate* AND *Random* TREATMENTS.

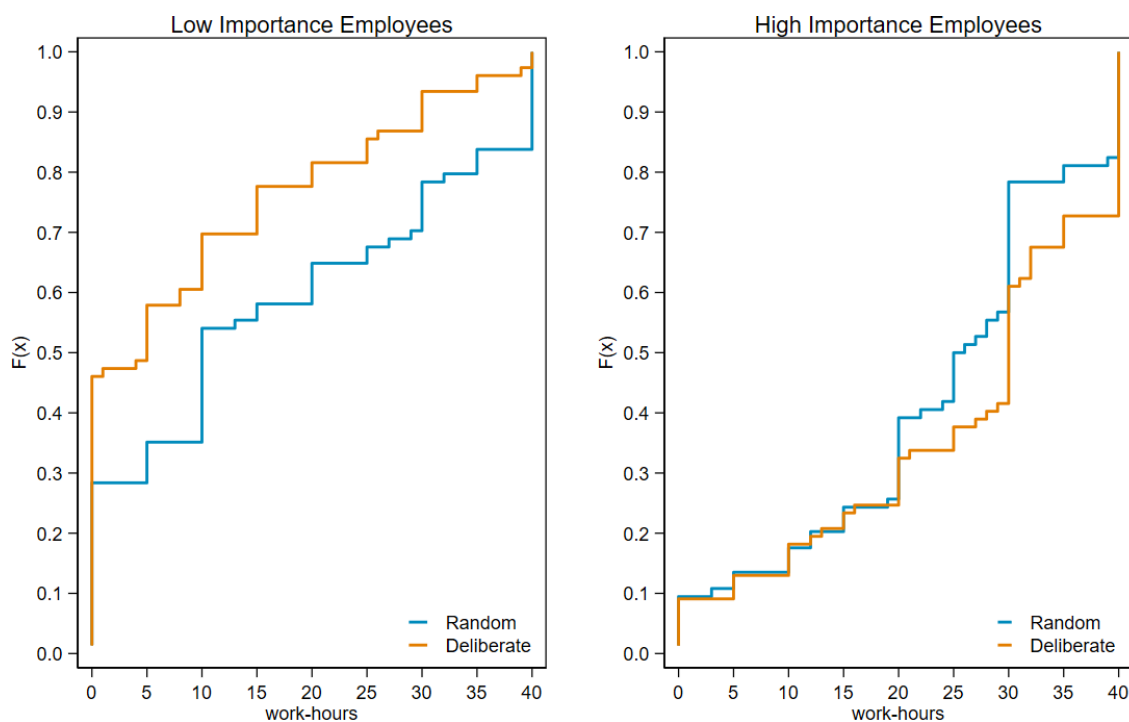


Table 1 reports the results from OLS regressions of the work hours sent to the manager by the low importance employees (Models 1, 2 and 3) and high importance employees (Models 4, 5 and 6). After controlling for work hours sent in the baseline altruism task, we confirm a significant negative effect of the *Deliberate* condition on the work hours sent by low importance employees (see Model 1). This result is robust to including controls for the answers to the personality questions and basic demographic characteristics (Model 2), and persists after additionally controlling for state and stability of employees’ self-esteem (Model 3).<sup>11</sup> Given that there are a large number of observations at the end points (i.e., at 0 and 40 work hours), we conduct robustness tests using Tobit regressions that account for censoring, and find similar results (see Table A3 in Appendix A). Finally, since Table A2 reveals some imbalance in covariates between the *Deliberate* and *Random* conditions — specifically in baseline altruism, age, and the response to the question about travel — we conduct permutation-based randomization inference that does not rely on parametric assumptions. The treatment effect for low importance employees remains statistically significant under this approach ( $p = 0.0016$  unadjusted;  $p = 0.007$  with controls), indicating that the result is not driven by covariate imbalance.

*Finding 1: Confirming Hypothesis 1, low importance employees in the Deliberate condition send fewer work hours to the manager than their counterparts in the Random condition.*

For high-importance employees, the estimated coefficient on the *Deliberate* condition is positive and significant at the 10% level before including demographic controls, but it is small and not robust to the inclusion of these controls (Models 5 and 6 in Table 1). We therefore do not interpret these estimates as evidence of a treatment effect for high-importance employees. We are also underpowered to detect a positive effect of the magnitude observed for the high importance employees.<sup>12</sup> Tobit regressions yield the same substantive conclusion (see Table A4 in Appendix A) with the only difference being that the significance of the treatment reaches the 5% level before demographic and other controls are included.

*Finding 2: We do not find conclusive evidence that the Deliberate condition affects the work hours sent by high-importance employees; however, given the limited statistical power in this subsample, we cannot rule out a small positive effect.*

We next examine whether the manager’s intentional responsibility allocation affects the total

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<sup>11</sup>Of all the controls included, the only other significant predictor of the work hours sent by low importance employees was the response to the personality question about attention: employees who reported that they minded being the center of attention sent fewer work hours to the manager. We did not have a prior hypothesis about this effect and hence do not offer an interpretation.

<sup>12</sup>With the realized sample sizes (74–77 per cell), the minimum detectable effect at 80% power is  $d = 0.46$ . The observed effect for high-importance employees is substantially smaller at  $d = 0.17$ . Accordingly, the estimates for high-importance employees are imprecise: we cannot rule out a small effect.

TABLE 1: OLS REGRESSIONS OF WORK HOURS SENT BY LOW IMPORTANCE EMPLOYEES (MODELS 1, 2 AND 3) AND HIGH IMPORTANCE EMPLOYEES (MODELS 4, 5 AND 6)

	Low Importance Employees			High Importance Employees		
	(1)	(2)	(3)	(4)	(5)	(6)
<i>Deliberate</i> condition	-5.407** (2.104)	-5.820*** (2.202)	-6.015*** (2.220)	2.913* (1.681)	2.343 (1.743)	2.118 (1.761)
Task 1 work hours	0.371*** (0.078)	0.364*** (0.081)	0.367*** (0.082)	0.603*** (0.069)	0.602*** (0.073)	0.600*** (0.074)
Lied (q1)		-2.667 (2.190)	-3.056 (2.266)		-3.887** (1.919)	-4.097** (1.934)
Discussion (q2)		-0.430 (2.281)	-0.348 (2.313)		-0.887 (1.846)	-1.251 (1.885)
Travel (q3)		0.735 (2.352)	0.235 (2.416)		-0.971 (1.994)	-0.811 (2.005)
Attention (q4)		-4.697** (2.148)	-4.969** (2.176)		-0.978 (1.864)	-0.949 (1.870)
State Self-Esteem			0.149 (0.237)			-0.192 (0.175)
Stability of Self-Esteem			0.276 (0.534)			0.112 (0.461)
Control variables	N	Y	Y	N	Y	Y
Constant	7.153*** (2.439)	17.909 (12.438)	12.268 (13.930)	10.600*** (1.947)	10.330 (8.312)	11.800 (9.795)
<i>N</i>	150	150	150	151	151	151
<i>R</i> <sup>2</sup>	0.187	0.240	0.246	0.344	0.384	0.389

Notes: Standard errors in parentheses. \*, \*\*, and \*\*\* indicate statistical significance at the 10%, 5%, and 1% levels, respectively. The control variables in Models (2), (3), (5) and (6) are gender, age, employment status, nationality and field of study. None of these variables are statistically significant.

work hours received from both employees. Managers receive fewer work hours on average in the *Deliberate* condition than in the *Random* condition (means of 35.47 and 40.34, respectively), although this difference is modest and only significant at the 10% level (one-tailed t-test,  $p = 0.057$ ). This pattern is consistent with the negative effect observed among low-importance employees and the absence of a robust effect among high-importance employees. Since work hours contributed by low and high importance employees differ in value to the manager, a more relevant measure of efficiency is total earnings. On this margin, we find no significant difference in managers' earnings between the *Deliberate* and *Random* conditions ( $N = 151$ , two-tailed t-test,  $p = 0.712$ ).

*Finding 3: The Deliberate condition leads to a modest reduction in total work hours received by*

managers, but has no significant effect on managers' earnings between the two conditions.

### III.A Exploratory Analysis: Potential mechanisms

In this section, we examine two inter-related mechanisms that might have driven the effect of the *Deliberate* treatment on the low importance employees, namely (i) employees' second order beliefs about what managers expected from them and (ii) the emotions they experienced when they learned about the manager's decision. We note, however, that both employees' SOBs as well as their free-text emotion responses were elicited *after* they had made their effort choices in Task 2. As such, they could be the result of post-choice rationalization. In particular, in the case of SOBs, employees who chose to send managers a low number of work hours may report they think the manager expects less from them as a way to justify their choice. Similarly, when reporting how they felt upon seeing the manager's decision, they may report they felt more negative emotions as a way to justify sending a lower number of work hours to the manager. We are thus careful not to interpret the results from the analysis below as causal and urge the reader to view these results as only suggestive of the potential mechanisms.

The first mechanism we consider is employees' second order beliefs. We conjectured that the low importance employees in the *Deliberate* condition would believe managers expected less from them than their counterparts in the *Random* condition. While this could be the result of post-choice rationalization, it is also possible that they interpreted the manager's decision to assign them a lower-importance role as a signal they expected less from them. As a result, low importance employees in the *Deliberate* condition would not anticipate feeling as much *guilt* about sending the manager fewer work hours relative to their counterparts in the *Random* condition. In line with this, we find that the SOBs of low importance employees in the *Deliberate* condition are indeed lower than that of their counterparts in the *Random* condition by an amount of 6.653 work hours (two-tailed t-test,  $p < 0.010$ ), and the number of work hours they send the manager is positively correlated with these beliefs (Spearman rank correlation,  $r_s = 0.410$ ,  $p < 0.001$ ). These results suggest that a lack of guilt in the *Deliberate* condition contributed to the main treatment effect (Battigalli and Dufwenberg, 2007).

Another possibility is that a negative emotional state induced by learning about the manager's decision may have caused low importance employees in the *Deliberate* condition to care less about the manager's payoff and subsequently provide less effort than their counterparts in the *Random* condition. To examine this, we asked employees the following question at the end of the experiment: "Please state briefly, how did you feel when seeing how much your work hours would be worth to the manager?". Responses were recorded in a text field. A sample of these responses across the four main experimental conditions can be found in Table A6 in

Appendix A. Three research assistants, blind to experimental condition, independently rated the valence and intensity of emotional content in these responses on a scale from -3 to +3, where -3 indicates the strongest negative emotional content, +3 indicates the strongest positive emotional content, and 0 indicates a neutral or purely descriptive response.

To assess the reliability of this coding, we compute inter-rater agreement across the subset of responses rated by all three assistants. The intraclass correlation coefficient (ICC) for the average rating is 0.911 (95% CI: 0.891–0.927), indicating excellent agreement among raters. Consistent with this, Cronbach’s alpha is 0.913, suggesting a high level of internal consistency. These results support the use of the averaged emotion score as a reliable measure of emotional content.<sup>13</sup>

Comparing the mean emotion rating across conditions, we find that low importance employees in the *Deliberate* condition exhibit a more negative emotional response (mean = -1.145) than their counterparts in the *Random* condition (mean = -0.320) (Mann–Whitney test,  $p < 0.01$ ). We also find that the number of work hours sent to the manager is positively correlated with the emotion rating among low-importance employees (Spearman rank correlation,  $r_s = 0.165$ ,  $p < 0.05$ ). We note, however, that the magnitude of this correlation is relatively modest compared to that observed for the SOB measure.

To understand the extent to which these two mechanisms might mediate our main result, we include both employees’ SOBs and the emotion rating scores from their free-text responses in our main regression for low importance employees. The results of this analysis can be seen in Table 2. Model 1 is our original regression with all the demographic and other controls. In Model 2, we include employees’ SOBs. In Model 3, we include the emotion rating scores and leave out the SOBs, and in Model 4, we include both the SOBs and the emotion rating scores. We find that both the SOBs and the emotion rating scores are positive and significant in Model 4 (though only at the 10% level in the case of the emotion rating scores). Moreover, while the treatment dummy continues to be negative and significant (at the 10% level) in Models 2 and 3, it does not reach statistical significance in Model 4 suggesting that both mechanisms together may explain the main treatment effect.

We find a similar pattern, though not reaching statistical significance in the case of the emotion indicator, when we repeat this analysis for high importance employees: the weak positive effect of the *Deliberate* condition on high importance employees is associated with higher guilt-aversion and a positive emotional state triggered by the manager’s intentional choice to entrust more responsibility to them. The results of this analysis for high importance employees can be found in Table A5 in Appendix A.

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<sup>13</sup>Emotion ratings are available only for participants who provided a non-empty text response. Results are robust to using the median rating instead of the mean.

TABLE 2: EXPLORING POTENTIAL MECHANISMS DRIVING THE EFFECT OF THE *Deliberate* CONDITION ON WORK HOURS SENT BY LOW IMPORTANCE EMPLOYEES - OLS REGRESSIONS

	(1)	(2)	(3)	(4)
<i>Deliberate</i> condition	-6.015** (2.220)	-4.001* (2.115)	-4.015* (2.377)	-2.360 (2.252)
Task 1 work hours	0.367*** (0.082)	0.327*** (0.077)	0.385*** (0.081)	0.343*** (0.076)
Employees' SOB		0.388*** (0.084)		0.376*** (0.083)
Employee Emotion			2.041* (1.055)	1.699* (0.989)
Personality controls	Y	Y	Y	Y
Self-esteem controls	Y	Y	Y	Y
Demographic controls	Y	Y	Y	Y
Constant	12.268 (13.930)	18.175 (13.054)	14.469 (13.786)	19.942 (12.943)
<i>N</i>	150	150	149	149
<i>R</i> <sup>2</sup>	0.246	0.349	0.263	0.361

Notes: \*, \*\*, and \*\*\* indicate statistical significance at the 10%, 5%, and 1% levels, respectively. Standard errors in parentheses. Model (1) displays the same results as Model (3) from Table 1. The variable, *Employees' SOB*, refers to the beliefs of employees about how many work hours (0-40) they thought the manager expected them to send in Task 2. These beliefs were elicited after employees had made their effort choices. The variable, *Employee Emotion*, takes values from -3 to +3 where -3 is very intense negative emotions, 0 is neutral and +3 is very intense positive emotions.

*Finding 4: There is suggestive evidence that the negative effect of the manager's deliberate decision on the low importance employees is associated with a lack of guilt as well as a negative emotional state triggered by the manager's deliberate decision.*

#### IV CONCLUSION

We conducted a laboratory experiment to investigate how workers respond to learning that they are less trusted than their peers. We find that learning one is less trusted has a strong demotivating effect but were unable to detect a positive impact of learning one is more trusted. We can put this result into perspective by comparing it to the related wage comparison literature, which often finds that the positive effect on effort and performance of learning one is in a *better* position than one's peers is often lower or non-existent compared to the negative effect of learning one is in a *worse* position than one's peers (Gächter and Thöni, 2010; Nosenzo, 2013). We extend this result by showing that there is a similar asymmetric effect on effort provision even when the information about one's relative position has no impact on wages. We further

identify two relevant inter-related mechanisms that might drive the effect we observe, namely, (i) a lack of guilt and (ii) a negative emotional response when learning about the manager’s decision.

Our results suggest that employees’ feelings about how they are perceived by management might be as important in determining their motivation as their material incentives. Information about how employees are perceived relative to their peers is also easier to glean based on day-to-day interactions with management and task allocation decisions in the firm. Managers would thus benefit from considering whether their interactions with workers are perceived as favoring certain individuals over others.

Future research could examine how manager–worker dynamics evolve over time. For example, managers may anticipate the negative consequences of their task allocation decisions and attempt to mitigate them—either by reversing their choices in subsequent periods or by adopting transparently random assignment procedures.<sup>14</sup> Another avenue is to compare workers’ responses to information about a manager’s relative trust with their responses to information about relative wages or bonuses. More broadly, it would be useful to study how these signals interact, particularly when they convey conflicting messages to workers.

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<sup>14</sup>The findings of [Angelovski et al. \(2016\)](#) suggest that, when faced with similar situations, managers may instead double down on their initial decisions, potentially amplifying negative effects on less trusted workers.

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# ONLINE APPENDIX

## A APPENDIX

TABLE A1: OLS REGRESSIONS OF WORK HOURS SENT IN TASK 1 ON EMPLOYEES' RESPONSES TO PERSONALITY QUESTIONS

	(1)	(2)	(3)	(4)	(5)
Lied (q1)	0.348 (1.523)				0.156 (1.528)
Discussion (q2)		-0.517 (1.554)			-0.435 (1.566)
Travel (q3)			2.406 (1.583)		2.808* (1.604)
Attention (q4)				-2.485 (1.514)	-2.896* (1.535)
Constant	22.01*** (0.950)	22.48*** (1.251)	20.520*** (1.303)	23.12*** (0.948)	21.60*** (1.932)
$N$	301	301	301	301	301
$R^2$	0.000	0.000	0.008	0.009	0.020

Notes: Standard errors are reported in parentheses. \*, \*\*, and \*\*\* indicate statistical significance at the 10%, 5%, and 1% level, respectively.

TABLE A2: MEANS, STANDARD DEVIATIONS AND TESTS OF COVARIATE BALANCE BETWEEN THE RANDOM AND DELIBERATE CONDITIONS

	Low Importance Employees			High Importance Employees		
	(1) Random Condition	(2) Deliberate Condition	(3) Difference (2) - (1)	(4) Random Condition	(5) Deliberate Condition	(6) Difference (5) - (4)
Task 1 work hours sent	24.824 (12.698)	20.684 (14.052)	-4.140*	22.176 (11.840)	20.987 (12.571)	-1.189
Gender (% male)	0.514 (0.503)	0.487 (0.503)	-0.027	0.514 (0.503)	0.481 (0.503)	-0.033
Age (years)	24.054 (2.881)	22.789 (2.769)	-1.265***	22.581 (2.872)	23.610 (3.901)	1.029*
Major (% Econ/Mgmt)	0.378 (0.488)	0.447 (0.501)	0.069	0.514 (0.530)	0.429 (0.498)	-0.085
Emp. status (% employed)	0.473 (0.503)	0.395 (0.492)	-0.078	0.446 (0.500)	0.494 (0.503)	0.048
Nationality (% CZ/SK)	0.878 (0.329)	0.882 (0.325)	0.003	0.905 (0.295)	0.870 (0.338)	-0.035
Q1 - lied (% yes)	0.459 (0.502)	0.500 (0.503)	0.041	0.378 (0.488)	0.221 (0.417)	-0.158**
Q2 - discussion (% yes)	0.689 (0.466)	0.605 (0.492)	-0.084	0.581 (0.497)	0.714 (0.455)	0.133*
Q3 - travel (% yes)	0.743 (0.440)	0.566 (0.499)	-0.177**	0.662 (0.476)	0.740 (0.441)	0.078
Q4 - attention (% yes)	0.459 (0.502)	0.408 (0.495)	-0.052	0.338 (0.476)	0.364 (0.484)	0.026
No. of Observations	74	76		74	77	

Notes: The numbers in parentheses in columns 1, 2, 4 and 5 are the standard deviations. \*, \*\*, and \*\*\* indicate statistical significance at the 10%, 5% and 1% levels, respectively. For Nationality, we report the percentage of participants who were either Czech (CZ) or Slovak (SK).

TABLE A3: TOBIT REGRESSIONS OF WORK HOURS SENT BY  
LOW-IMPORTANCE EMPLOYEES

	(1)	(2)	(3)
<i>Deliberate</i> condition	-9.617** (3.768)	-10.330*** (3.834)	-10.680*** (3.834)
Work hours sent in Task 1	0.714*** (0.152)	0.710*** (0.153)	0.717*** (0.153)
Lied (q1)		-5.016 (3.786)	-5.737 (3.896)
Discussion (q2)		-0.495 (3.935)	-0.333 (3.994)
Travel (q3)		2.137 (4.167)	1.241 (4.223)
Attention (q4)		-7.567** (3.729)	-7.954** (3.732)
State Self-Esteem			0.319 (0.412)
Stability of Self-Esteem			0.539 (0.925)
Control Variables	N	Y	Y
Constant	-3.518 (4.700)	14.650 (21.840)	2.774 (24.120)
<i>N</i>	150	150	150

Left-censored obs: 56; right-censored obs: 14

Notes: Standard errors in parentheses. \*, \*\*, and \*\*\* indicate statistical significance at the 10%, 5%, and 1% levels, respectively. The other controls in Models (2) and (3) are gender, age, employment status, nationality and field of study. None of these variables are statistically significant.

TABLE A4: TOBIT REGRESSIONS OF WORK HOURS SENT BY HIGH-IMPORTANCE EMPLOYEES

	(1)	(2)	(3)
<i>Deliberate</i> condition	4.722** (2.384)	4.024* (2.396)	3.668 (2.400)
Work hours sent in Task 1	0.878*** (0.106)	0.890*** (0.108)	0.883*** (0.109)
Lied (q1)		-5.088* (2.615)	-5.451** (2.620)
Discussion q2)		-1.074 (2.522)	-1.758 (2.560)
Travel (q3)		-2.356 (2.762)	-2.097 (2.757)
Attention (q4)		-1.320 (2.502)	-1.288 (2.492)
State Self-Esteem			-0.322 (0.236)
Stability of Self-Esteem			0.494 (0.641)
Control Variables	N	Y	Y
Constant	5.327* (2.857)	2.691 (11.750)	1.690 (13.700)
<i>N</i>	151	151	151

Left-censored obs: 14; right-censored obs: 34

Notes: Standard errors in parentheses. \*, \*\*, and \*\*\* indicate statistical significance at the 10%, 5%, and 1% levels, respectively. The other controls in Models (2) and (3) are gender, age, employment status, nationality and field of study. None of these variables are statistically significant.

TABLE A5: EXPLORING POTENTIAL MECHANISMS DRIVING THE EFFECT OF THE *Deliberate* CONDITION ON WORK HOURS SENT BY HIGH IMPORTANCE EMPLOYEES - OLS REGRESSIONS

	(1)	(2)	(3)	(4)
<i>Deliberate</i> condition	2.118 (1.761)	1.201 (1.725)	0.175 (2.019)	-0.450 (1.948)
Task 1 work hours	0.600*** (0.074)	0.495*** (0.078)	0.587*** (0.076)	0.485*** (0.078)
Employees' SOB		0.314*** (0.096)		0.342*** (0.099)
Employee Emotion			1.579* (0.862)	1.369 (0.830)
Personality controls	Y	Y	Y	Y
Self-esteem controls	Y	Y	Y	Y
Demographic controls	Y	Y	Y	Y
Constant	11.802 (9.795)	7.729 (9.549)	14.046 (9.923)	9.232 (9.635)
<i>N</i>	151	151	145	145
<i>R</i> <sup>2</sup>	0.389	0.433	0.412	0.462

Notes: \*, \*\*, and \*\*\* indicate statistical significance at the 10%, 5%, and 1% levels, respectively. Standard errors in parentheses. Model (1) displays the same results as Model (6) from Table 1. The variable, *Employees' SOB*, refers to the beliefs of employees about how many work hours (0-40) they thought the manager expected them to send in Task 2. These beliefs were elicited after employees had made their effort choices. The variable, *Employee Emotion*, takes values from -3 to +3 where -3 is very intense negative emotions, 0 is neutral and +3 is very intense positive emotions.

TABLE A6: EXAMPLES OF THE EMPLOYEES' RESPONSES TO QUESTION ABOUT HOW THEY FELT UPON LEARNING HOW MUCH THEIR WORK HOURS WOULD BE WORTH TO THE MANAGER BY EXPERIMENTAL CONDITION

Employee response	Condition
<p><i>"I felt disappointed, that my work hours were worth nearly nothing to her even though she never saw me work."</i></p> <p><i>"[...]I felt surprised and kinda.. disappointed"</i></p> <p><i>"Disappointed, as I thought that my answers [...] wouldn't make a bad employee. It made me feel that the manager was biased [...]"</i></p> <p><i>"Very angry, cheated, worthless"</i></p> <p><i>"Shocked and angry"</i></p> <p><i>"As not representing my potential."</i></p> <p><i>"confused, I didn't understand why"</i></p>	<p>Deliberate &amp; Low Importance</p>
<p><i>"No strong feelings really."</i></p> <p><i>"it did not resonate with me in a bad way, as it was chosen by computer"</i></p> <p><i>"The disparity between me and the other employee made me feel like I don't have to put in as much work."</i></p> <p><i>"in the second task it felt really pointless to give him any hours"</i></p> <p><i>"I saw it as balanced - if we both worked full time for her, she earns more than us of course, but if we have chosen to add only a small amount of CZK to ourselves, she would earn nothing"</i></p> <p><i>"It didn't bother me that much. For me, there was no point in working for myself if it would give me just 20 CZK, but the manager can earn 120, so I've decided to help him."</i></p> <p><i>"I felt okay with it"</i></p>	<p>Random &amp; Low Importance</p>
<p><i>"i felt he put his trust in me, as i could make him the most money"</i></p> <p><i>"I was glad to have been given such trust"</i></p> <p><i>"I felt good, trusted."</i></p> <p><i>"I was proud of myself and I felt important for manager."</i></p> <p><i>"more valued"</i></p> <p><i>"I felt very proud, that manager trusted me and allocated 5 kc per hour, it makes me feel more responsible and dedicate hours to work rather than to my own tasks."</i></p> <p><i>"I felt good. It looked like the manager trusted to me that s/he made this decision."</i></p>	<p>Deliberate &amp; High Importance</p>
<p><i>"Didnt really have any feelings about it."</i></p> <p><i>"Not bad at all"</i></p> <p><i>"None of my business."</i></p> <p><i>"I feel ok, if other employee didnt slack too much manager should be pretty happy :P"</i></p> <p><i>"I felt well, I hope he enjoys the money."</i></p> <p><i>"I felt special when he was making 5CZK from me and only 1CZK from the other employee"</i></p> <p><i>"I was worried about his payment because it depended on us and our preference."</i></p>	<p>Random &amp; High Importance</p>

## B APPENDIX: EXPERIMENT INSTRUCTIONS

### Role assignment

You have been randomly assigned to represent **EMPLOYEE 2** in a 3-member firm.

Apart from you, the firm has 1 other employee (namely, employee 1) and 1 manager, who are also participants in this experiment.

Please note that we have assigned you to same-gender firms as per the gender that you indicated at the beginning.

This means that all members of your firm have the same gender as you do.

### Instructions for personality questions

Before the experiment begins, you will be asked to answer a few short questions.

Please answer them as honestly as possible.

Your responses to some of these questions may be used over the course of the experiment.

All your answers are anonymous and will not be paired with your identity at any time.

### Personality questions

#### Questionnaire

1. Have you often lied for personal benefit in the heat of the moment?  ye  n
2. If you had to choose, which do you think is more important in a discussion - being honest or making people feel comfortable around you?  being honest  making people feel comfortable
3. How do you like to travel?  I like to plan ahead  I prefer to be spontaneous
4. Do you mind being the center of attention?  ye  n

## Task 1 instructions

### Instructions for Task 1

In this task, you and the other employee of your firm will be paid **150 CZK to work for the manager of your firm.**

Imagine you have **40 hypothetical work hours** per week.

You can allocate these hours between working for your firm and working for yourself.

For every hour you choose to work for your firm, the manager earns 3 CZK.

For every hour you choose to work for yourself, you earn 0.5 CZK.

At the end of the experiment, the manager of your firm will learn how many hours each of you (Employee 1 and Employee 2) allocated to the firm (which will determine her/his payoff).

If this task is chosen for payment:

**The manager's earnings (in CZK) =  $3 \times (\text{total work hours both employees allocated to the firm})$**

**Your earnings (in CZK) =  $150 + 0.5 \times (\text{work hours you kept for yourself})$ .**

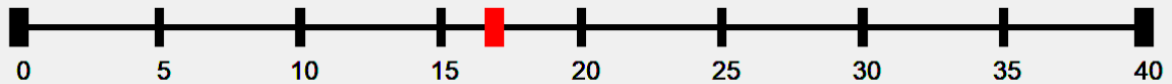
## Task 1 choice

### Task 1

You will earn at least 150 CZK from this task.

Please decide below how many of your 40 work hours you would like to allocate to your firm.

You are choosing to allocate: **17** of your 40 work hours to your firm and the remaining to yourself.



If this task is chosen for payment, the manager of your firm will earn:

**51 CZK** from your choice

and you will earn: **161.5 CZK** (i.e.  $150 + 11.5$ ).

## Task 1 feedback

Task 1 is complete.

In this task, you allocated 17 work hours to the firm and kept 23 work hours for yourself.

This translates into a payment of 161.5 CZK (i.e.  $150 + 23 \cdot 0.5$ ) for you.  
Meanwhile the manager will earn 51 CZK from **your** choice and a certain amount of CZK from the choice of the other employee.

If this task is chosen for payment, you will receive 162 CZK.

## Deliberate condition: Task 2 instructions part 1

### Instructions for Task 2

Task 2 is very similar to Task 1 except for one key difference.

In Task 2, you and the other employee of your firm will once again be paid **150 CZK to work for the manager**.

You will again have **40 work hours** and should decide how much to allocate to your firm and how much to keep for yourself.

For every hour you keep for yourself, you will earn 0.5 CZK.

The difference from Task 1 is that your work hours may no longer be worth 3 CZK each to your firm and by extension, the manager.

Instead, this time, **based on your responses to the questions** you answered at the beginning, **the manager of your firm can decide how many CZK each work hour of yours is worth to her/him** (under the condition that it adds up to 6 CZK per work hour for both of you).

At the end of the experiment, the manager of your firm will learn how many work hours each of you (Employee 1 and Employee 2) allocated to the firm (which will determine her/his payoff).

## Deliberate condition: Task 2 instructions part 2

### Instructions for Task 2

If this task is chosen for payment and the manager chooses that your work hours are worth  $x$  CZK to her/him, then

**The manager's earnings (in CZK) =  $x \cdot (\text{work hours you allocated to the firm}) + (6-x) \cdot (\text{work hours other employee allocated to the firm})$**

**Your earnings (in CZK) =  $150 + 0.5 \cdot (\text{work hours kept for yourself})$**

Before the manager made her/his choice, s/he saw the responses of you and the other employee to the questions below, namely:

*Have you often lied for personal benefit in the heat of the moment?*

*If you had to choose, which do you think is more important in a discussion - being honest or making people feel comfortable around you?*

*How do you like to travel?*

*Do you mind being the center of attention?*

Please guess how many CZK each of your work hours will be worth to the manager (from 0 to 6).

Please click continue to see the manager's decision of how many CZK each of your work hours are worth to her/him.

### Deliberate condition: Task 2 instructions part 3

From the options available to her/him, the manager of your firm decided how much one work hour of yours will matter for her/his payoff relative to the other employee,

each hour allocated by YOU is worth: **1 CZK** to the manager.

(each hour allocated by the other employee is worth **5 CZK** to the manager.)

This means that the other employee's work hours are 5 times more important for the manager's payoff.

### Deliberate condition: Task 2 choice

#### Task 2

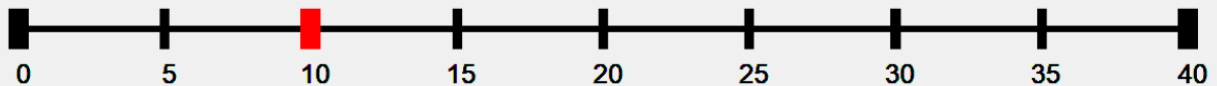
You will earn at least 150 CZK from this task.

**The manager decided that each hour allocated by YOU is worth 1 CZK to her/him**

(and each hour allocated by the other employee is worth 5 CZK to her/him.)

Please decide below how many of your 40 work hours you would like to allocate to your firm.

You are choosing to allocate: 10 of your 40 work hours to your firm and the remaining to yourself.



If this task is chosen for payment, the manager of your firm will earn:

**10 CZK** from your choice

and you will earn: **165.0 CZK** (i.e.  $150 + 15.0$ ).

## Random condition: Task 2 instructions part 1

### Instructions for Task 2

Task 2 is very similar to Task 1 except for one key difference.

In Task 2, you and the other employee of your firm will once again be paid **150 CZK to work for the manager**.

You will again have **40 hypothetical work hours** and should decide how much to allocate to your firm and how much to keep for yourself.

For every hour you keep for yourself, **you will earn 0.5 CZK**.

The difference from Task 1 is that your work hours may no longer be worth 3 CZK each to the manager.

Instead, this time, **the computer will randomly determine how many CZK each of your work hours will be worth to the manager**  
(under the condition that it adds up to 6 CZK per work hour for both of you).

At the end of the experiment, the manager of your firm will learn how many work hours each of you (Employee 1 and Employee 2) allocated to the firm (which will determine her/his payoff).

Continue

## Random condition: Task 2 instructions part 2

### Instructions for Task 2

If this task is chosen for payment and the computer chooses that your work hours are worth  $x$  CZK to the firm, then

**The manager's earnings (in CZK) =  $x$ \*(work hours you allocated to the firm) +  $(6-x)$ \*(work hours other employee allocated to the firm)**

**Your earnings (in CZK) =  $150 + 0.5$ \*(work hours kept for yourself)**

Please click continue to see how many CZK the computer determined that each of your work hours will be worth to the manager.

Continue

### Random condition: Task 2 instructions part 3

The computer randomly determined **how much one work hour of yours will matter for the manager's payoff relative to the other employee,**

**each hour allocated by YOU is worth: 1 CZK to the manager**

(each hour allocated by the other employee is worth 5 CZK to the manager.)

This means that the other employee's work hours are five times more important for the manager's payoff.

### Random condition: Task 2 choice

#### Task 2

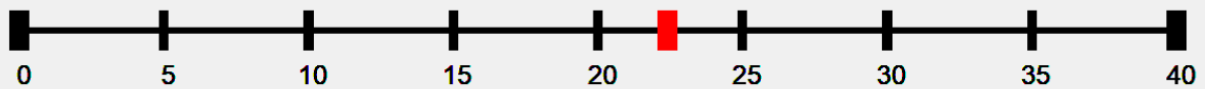
You will earn at least 150 CZK from this task.

**The computer determined that each hour allocated by YOU is worth 1 CZK to the manager**

(and each hour allocated by the other employee is worth 5 CZK to the manager.)

Please decide below how many of your 40 work hours you would like to allocate to your firm.

You are choosing to allocate: 22 of your 40 work hours to your firm and the remaining to yourself.



**If this task is chosen for payment, the manager of your firm will earn:**

**22 CZK from your choice**

**and you will earn: 159.0 CZK (i.e. 150 + 9.0).**

## Feedback after Task 2

Task 2 is complete.

In this task, you allocated 10 work hours to the firm and kept 30 work hours for yourself.

This translates into a payment of 165.0 CZK (i.e.  $150 + 30 \cdot 0.5$ ) for you.

Meanwhile the manager will earn 10 CZK from **your** choice and a certain amount of CZK from the choice of the other employee.

If this task is chosen for payment, you will receive 165 CZK.

### Manager beliefs

You determined that EMPLOYEE 1's work hours are worth 1 CZK to you and EMPLOYEE 2's work hours are worth 5 CZK to you.

Please state below how many work hours you believe each employee in your firm will transfer to you in Task 2 (Note: each employee can transfer between 0 and 40 work hours to you):

EMPLOYEE 1 will transfer (work-hours to me)

EMPLOYEE 2 will transfer (work-hours to me)

### Employee beliefs

What do you think are the expectations of the manager concerning the number of work hours you would transfer to her/him in Task 2?  
(in hours, from 0 to 40)

## Deliberate condition: Manager questionnaire

### Questionnaire

Please answer these questions honestly.

1. In Task 2, was your decision of which employee to make more important for your earnings entirely random or based on their responses to the 4 questions?

- random  
 based on responses

2. Was the above decision based on one or more of the following: (You may select more than one option.)

- how similar you thought one of the employees was to you  
 how much you liked one of the employees  
 how many work hours you believed they would each send you  
 none of the above

3. Please rate the extent to which you trusted the employee whose work hours you decided would be worth 5 CZK to you (1 = did not trust at all; 5 = trusted a lot)

1 ○○○○○ 5

4. Please rate how relevant the employees' responses to each of the questions below were in influencing your decision of how many CZK to allocate to their individual work hours in Task 2.

(1 = not at all relevant, 5 = very relevant)

4a. Have you often lied for personal benefit in the heat of the moment?

1 ○○○○○ 5

4b. If you had to choose, which do you think is more important in a discussion - being honest or making people feel comfortable around you?

1 ○○○○○ 5

4c. How do you like to travel?

1 ○○○○○ 5

4d. Do you mind being the center of attention?

1 ○○○○○ 5

Continue

## Deliberate condition: Employee questionnaire

### Questionnaire

Please answer these questions honestly.

1. Do you believe that the manager's decision of how many CZK each of your work hours were worth to her/him in Task 2 was a result of your responses to the questions shown to her/him?

- yes  
 no

2. Do you believe this decision was based on (You may select more than one option.)

- how similar s/he thought you were to her/himself,  
 how much s/he liked you  
 how many work hours s/he believed you would allocate to the firm  
 none of the above

3. Please rate how much you think the manager trusted you to send her/him more work hours than the other employee in your firm in Task 2. (1 = did not trust me at all; 5 = trusted me a lot).

1 ○○○○○ 5

4. Please rate how relevant you think your responses to each of these questions were in influencing the manager's decision in Task 2. (1 = not at all relevant, 5 = very relevant)

4a. Have you often lied for personal benefit in the heat of the moment?

1 ○○○○○ 5

4b. If you had to choose, which do you think is more important in a discussion - being honest or making people feel comfortable around you?

1 ○○○○○ 5

4c. How do you like to travel?

1 ○○○○○ 5

4d. Do you mind being the center of attention?

1 ○○○○○ 5

Continue

## Measurement of Self Esteem Stability

Please indicate to what extent the following statements apply to you on a scale of 1 to 6:

Scale : 1 = "Does not apply to me" and 6 = "Does apply to me"

1. My attitude toward myself is very stable. 1 ○○○○○○ 6
2. How I estimate my abilities compared with others changes frequently. 1 ○○○○○○ 6
3. My positive and negative feelings toward myself often blend into each other. 1 ○○○○○○ 6

## Measurement of State Self Esteem

This questionnaire is designed to measure what you are thinking at this moment.

There is of course, no right answer for any statement. The best answer is what you feel is true of yourself at the moment.

Be sure to answer all of the items, even if you are not certain of the best answer.

Again, answer these questions as they are true for you RIGHT NOW.

Scale : 1 = "Not at all", 2 = "A Little Bit", 3 = "Somewhat", 4 = "Very Much", 5 = "Extremely"

4. I am worried about whether I am regarded as a success or failure. 1 ○○○○○ 5
5. I feel self-conscious. 1 ○○○○○ 5
6. I feel displeased with myself. 1 ○○○○○ 5
7. I am worried about what other people think of me. 1 ○○○○○ 5
8. I feel inferior to others at this moment. 1 ○○○○○ 5
9. I feel concerned about the impression I am making. 1 ○○○○○ 5
10. I am worried about looking foolish. 1 ○○○○○ 5

## Final questionnaire

Please answer the following questions before you learn the results.

1. Please indicate your age (in years):

19

2. What is the highest degree you have received?

- high school
- bachelor
- master
- PhD.

3. Do you study at the Faculty of Economics and Administration (ESF)?

- yes
- no

4. What is your current employment status?

- full-time
- part-time
- unemployed (student)

5. Please indicate your nationality:

- Czech
- Slovak
- Other

6. Please indicate how clear the instructions were (1 = not at all clear, 5 = very clear).

1 ○○○○○● 5

7. Please state briefly, how did you feel on seeing the manager's decision of how many CZK your work hours were worth to her/him in Task 2?

I felt...

Continue