



# Misperceiving Economic Success: Experimental Evidence on Meritocratic Beliefs and Inequality Acceptance

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## Abstract

Most people tend to equate success with merit, a tendency that is particularly pronounced among conservatives. However, in practice it is exceedingly difficult to discern the relative impact of luck and effort to economic success. Based on a large-scale online study that samples the general US population, we investigate whether individuals misperceive the importance of luck for success, and how this mediates their meritocratic beliefs and acceptance of inequality. We randomly assign participants in pairs to compete in an easy or hard work assignment. The tasks are structured such that working on the easy work assignment almost certainly results in better performance and economic success. We show that economically successful participants overweight the role of effort in their success, perceiving high income as more deserved than unsuccessful participants. Subsequently, they demand less redistributive taxation, and they also show little interest in receiving information about the true determinants of their success. These general findings hold true regardless of political orientation. Successful liberals are as meritocratic as conservatives are, sharing the same beliefs in deservingness and preferences for low redistributive taxes.

**Keywords:** *inequality; fairness; deservedness; political views; cognitive dissonance*

**JEL codes:** *C93, D63*

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## 1 Introduction

People tend to accept more inequality if it reflects hard work, effort, and performance (Fong 2001; Alesina and La Ferrara 2005; Cappelen et al. 2007; Almås, Cappelen, and Tungodden 2020). This widely held meritocratic fairness ideal may explain variation in income inequality and redistributive policies across countries (Alesina and Glaeser 2004; Alesina and Angeletos 2005), and it is at the core of the “American Dream,” i.e. the notion that success can be attained by all who work sufficiently hard. Against this backdrop, it is not surprising that many tend to equate success with merit (Frank 2016; Gauriot and Page 2019; Mijs 2019). However, it is difficult, if not impossible, to discern the relative contributions made by luck and effort to economic success. As a result, individuals may conclude in many cases that merit is the source of their success, when in fact luck has played a crucial role.

This paper provides evidence on such misperceptions and their consequences for redistributive tax preferences using a large-scale interactive online study with a sample of the general population of the United States. We are particularly interested in how economic success shapes an individual’s perception of merit and how these perceptions affect their preferences for redistributive taxation. Given that ideological dispositions on fairness views and inequality often differ between liberal and conservative voters and appear as critical inputs for government tax policy policies (e.g. Alesina and Glaeser 2004; Congdon, Kling, and Mullainathan 2009), we also examine how meritocratic beliefs and redistributive preferences differ in relation to political orientation.

Political affiliation is a strong indicator of how people perceive and navigate political and economic issues (Campbell 1960; Bartels 2002). Indeed, liberals and conservatives generally adhere to divergent explanations of the underlying causes of economic success: in public opinion polls, liberals consistently emphasize the role of luck in economic success, while conservatives typically support the view that success is the result of hard work, which makes any resulting inequality morally fair (Dunn 2018; Pew Research Center 2019).<sup>1</sup> Yet a persistent concern is that these opinions do not necessarily reflect what people think and do when they are forced to appraise their own success. Do liberals still believe in luck when they are successful, and are conservatives still proponents of meritocracy when they are unsuccessful?

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<sup>1</sup> There is a handful of studies providing evidence of a correlation between political orientation and the role of luck and effort in economic success (see, for example, Gromet, Hartson, and Sherman 2015; Karadja, Mollerstrom, and Seim 2017; Fehr, Muller, and Preuss 2020).

A number of obstacles complicate the credible identification of a causal relationship between economic success and perceptions surrounding the role of merit and inequality acceptance. First, identification is complicated by the difficulty to characterize the determinants of economic success in observational data. It is typically hard to identify and to quantify the relative impact of luck and effort ex-post, let alone to study the associated beliefs. Second, it is difficult to gather data on individuals' beliefs before and after they achieve economic success, and if it is possible, any observed variation in beliefs is likely endogenous with respect to economic success and behavior. Third, a correlation between political orientation and meritocratic beliefs may indicate that causality runs in both directions with political orientation informing such beliefs, and vice versa.

We overcome these identification challenges by designing a work assignment that gives us control over the details of the task while also allowing us to introduce the necessary exogenous variation in economic success. The work assignment is a simple code-entry task, for which we recruited a large sample of workers from an online labor market platform. The code-entry task requires no prior knowledge or specific skills such that performance should depend almost entirely on exerted effort. We randomly match workers into pairs and pay them by their relative performance resulting in highly unequal incomes within pairs, i.e. the worker with the higher score receives a high bonus, whereas the worker with the lower score receives no bonus payment. To create the necessary random variation in economic success, we leverage the relative performance payment scheme that depends on exerted effort and randomly assign workers to either an *easy* or a *hard* version of the task, without disclosing this assignment to the workers. The two versions of the task are calibrated such that working on the *easy task* results with near certainty in a higher score than working on the *hard task*. Thus, while everyone has to exert effort to have a chance of success, some have a larger exogenous advantage than others – as is often the case in socioeconomic reality (e.g. Chetty et al. 2020). Furthermore, given that success is largely predetermined by one's random assignment to the *hard* or *easy task* and that participants are uncertain about task difficulty, we can identify its impact on meritocratic beliefs, and support for redistributive taxes.

After participants complete the work assignment, but before they learn about their success or failure, we elicit their beliefs about task difficulty, their relative performance, and the extent to which they deserve the bonus payment. After revealing the bonus payment (i.e. economic success), we measure these beliefs again. Gathering data on these perceptions both before and after disclosing the bonus payment allows us to account for heterogeneous prior beliefs and to precisely measure whether success changes beliefs. This is important because it accounts for heterogeneity in behavior. In a next

step, we investigate how meritocratic beliefs shape support for redistributive taxes. Specifically, we elicit participants' preferences for a redistributive tax scheme and their willingness to pay for information about task difficulty and performance. In addition, we gather information on a broad range of socio-economic characteristics from participants, including political orientation and party affiliation, before the start of the work assignment.

The experiment generates two main findings. First, we observe that economically successful participants assign excess weight to the role of effort, leading to a strong polarization in attitudes. That is, we document a strong treatment effect on meritocratic beliefs. Economic success leads to a 14 percentage point higher belief that receiving the bonus payment is deserved. Similarly, successful participants are 16 percentage points more likely than unsuccessful participants to think that success in the work assignment depends on effort. Although it is very salient that success is random in our setting, participants predominantly attribute their success to hard work.

Economic success in our setting also conditions preferences for redistributive taxes. Specifically, successful participants tend to prefer a lower tax rate and thus less redistribution than unsuccessful participants. The difference in preferred tax rates is about 40 percentage points, equivalent to a three-times lower tax revenue. The difference in tax rates preferred by successful and unsuccessful participants can be fully explained by their prior beliefs regarding merit. That is, participants with a higher prior belief that they deserve the bonus payment demand less redistribution (i.e. a lower tax rate) when they are successful, but more redistribution if they are unsuccessful.

Consistent with the relationship between perceptions of personal merit and preferred tax rates, we document that a significant share of participants are highly willing to remain in the dark about the relative importance of merit for their success. About 50 percent of participants are unwilling to forego even 1 cent to obtain information regarding task difficulty, the main determinant of economic success. Moreover, the willingness to pay for this piece of information is significantly lower for successful than for unsuccessful participants, indicating that individuals are more than willing to maintain false perceptions about the causes of their success, misperceptions that justify greater inequality.

Second, the findings bring empirical evidence to the divisive political debate regarding fairness views and economic issues. In particular, we cast doubt on the broadly held notion that liberals are less likely to equate success with merit than conservatives. In fact, when liberals are economically successful, they advocate meritocracy just as frequently as conservatives, despite the overwhelming

role played by luck in our setting. In other words, meritocratic beliefs and behavior do not differ by political orientation: when they are successful, liberals and conservatives both identify merit as the cause of success, and they both prefer lower redistributive taxes. Moreover, liberals assign as little importance to learning about the role of luck in their success as conservatives, they are less likely to revise their tax preferences, and if they revise them, the magnitude of change is smaller when compared to that of conservatives.

The findings of our paper contribute to several strands in the literature. Most importantly, we add to the voluminous literature on fairness preferences and fairness views. An important and consistent finding that has emerged in observational studies (Fong 2001; Alesina and Angeletos 2005; Karadja, Mollerstrom, and Seim 2017) and laboratory studies alike (Konow 2000; Cappelen et al. 2013; Cappelen et al. 2017) is that people tend to accept greater inequality if it is the result of effort rather than luck. While the importance of the source of inequality is well documented, empirical evidence on inequality acceptance when individuals are uncertain or have limited information about the source of inequality is scarce (but see, for example, Cappelen et al. 2017; Cappelen, De Haan, and Tungodden 2020). Unlike most of these papers, however, we present causal evidence on how economic success impacts meritocratic beliefs when individuals are able to ascribe their success to their own actions. The selfish behavior that we observe is consistent with self-serving fairness norms described in the prior literature (Babcock et al. 1995; Engelmann and Strobel 2004; Croson and Konow 2009; Konow 2009; Cappelen et al. 2013; Durante, Putterman, and van der Weele 2014; Deffains, Espinosa, and Thöni 2016). We advance this literature by showing that participants display little interest in correcting biased views about merit. We also show that this lack of interest applies to liberals and conservatives alike.

Our paper belongs to a growing literature in economics that documents political polarization on a host of social and economic issues. Recent studies show that this polarization is not confined to political attitudes or fairness views alone (e.g. Gromet, Hartson, and Sherman 2015; Cappelen et al. 2020), but also applies to perceptions of factual reality, including inequality (Kuziemko et al. 2015), relative income (Cruces, Perez-Truglia, and Tetaz 2013; Karadja, Mollerstrom, and Seim 2017; Fehr, Mollerstrom, and Perez-Truglia 2019), social mobility (Alesina, Stantcheva, and Teso 2018; Fehr, Muller, and Preuss 2020), and immigration (Alesina, Miano, and Stantcheva 2020; Grigorieff, Roth, and Ubfal 2020). Other studies suggest that liberals tend to be less accepting of inequality (Fisman, Jakiela, and Kariv 2017; Cappelen, Haaland, and Tungodden 2019; Almås, Cappelen, and Tungodden 2020). While we find that liberals are more open to redistributive taxation, and are thus less accepting of

inequality, we find no difference in how liberals and conservatives react to economic success – that is, liberals display the same meritocratic beliefs and behavior as conservatives.

Finally, we contribute to a rapidly growing strand of economic research that relies on online platforms such as MTurk, Prolific, Dynata, Luc.id, and YouGov. The vast majority of these studies use such platforms to implement surveys and survey experiments (e.g. Kuziemko et al. 2015; Weinzierl 2017; Grigorieff, Roth, and Ubfal 2020) or decision tasks and one-shot experiments (e.g. Bordalo et al. 2016; De Quidt, Haushofer, and Roth 2018; DellaVigna and Pope 2018b, 2018a; Enke and Graeber 2019; Exley and Kessler 2019; Gagnon, Bosmans, and Riedl 2020). Our study combine these elements and demonstrates the feasibility of conducting large-scale interactive experiments using an online platform (see also Arechar, Gächter, and Molleman 2018; Molleman et al. 2019). We discuss the implementation of the experiment in Section 2 below, and also provide practical advice on conducting successful interactive online experiments.

## 2 Experimental Design

Our study, which combines a survey and incentivized decision tasks, consists of four parts: a socio-demographic questionnaire, a work assignment, a redistribution task, and an information acquisition task.<sup>2</sup> We pre-registered the design and a pre-analysis plan in the AEA RCT Registry (AEARCTR-0004455).

**Setup:** In the first part, we introduce participants to the general details of the study and ask for their consent. We then elicit some basic socio-demographic information and personality traits. More details and a complete list of all covariates can be found in Appendix A1. In the second part, participants work on a real effort task for 3 minutes. The task consists of retyping a series of randomly generated sequences of upper- and lower-case letters. There are two task types: An *easy task* consisting of five-letter sequences and a *hard task* consisting of 15-letter sequences. We informed participants that there are two task types and that they would be randomly assigned to one of the two (treatment assignment). While participants know that the *easy task* involves shorter sequences and the *hard task* involves longer sequences, they are not told the exact number of letters in each task type, thus engendering uncertainty about their task assignment. We intentionally designed the tasks to ensure divergence between participant scores based on task assignment, rather than participant skill or effort.

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<sup>2</sup> Screenshots of the survey and all tasks are available in the Appendix.

Specifically, due to the length of the sequences, participants in the *hard task* will retype fewer sequences than participants assigned to the *easy task* (see Section 4.1 for more details).

Participants are paid according to their performance. That is, we randomly match a participant working on the *easy task* with a participant working on the *hard task* and compare their scores. The participant with the higher score receives a bonus payment of \$2 and the participant with the lower score receives \$0. Note that the matching protocol is public knowledge, i.e. participants are uncertain about the difficulty of their task, but know their matching partner is doing the other task (whether *hard* or *easy*).

Before we reveal the outcome of the performance comparison (i.e. the bonus payment), we ask participants: (1) to estimate the likelihood that they worked through the *hard task* (“Prior Belief, Task Difficulty”), (2) how much they think they deserve the \$2 -bonus payment (“Prior Belief, Deserving Bonus”), and (3) to estimate how many of 100 participants performing the same task achieve a lower score (“Prior Belief, Relative Performance”). After revealing the bonus payment, we ask the same questions again (“Posterior Beliefs”). Additionally, we ask participants to assess the extent to which they think the bonus payment depends on luck or effort (“Belief Effort Determines Success”). Building on evidence suggesting that complex incentivization rules do not outperform introspection (e.g. Trautmann and van de Kuilen 2015; Charness, Gneezy, and Rasmusen 2020; Danz, Vesterlund, and Wilson 2020), we do not remunerate the elicitation of these beliefs in order to avoid complicating the tasks and to keep the study within a reasonable time frame.

In the third part, both participants in the matched pair have to decide about a redistributive tax rate, in which the tax revenue is equally distributed between the pair. This implies in our setting that the successful participant pays half of the tax revenue as tax while the unsuccessful participant receives half of the tax revenue. Using an interactive slider, participants can indicate a tax rate (“Tax Rate”) between 0% and 100% and immediately see how the tax rate will affect their income and that of the other person. We randomly select one of the two proposed tax rates and apply the choice to the matched pair at the end of the study.<sup>3</sup>

In the fourth part, we offer participants an opportunity to buy information about task difficulty and the task performance of the other participant. We elicit their willingness to pay (“WTP”) for

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<sup>3</sup> Note that this procedure elicits participants’ true preferences for redistributive taxation given that participants are consequentialists and care about final outcomes. This assumption seems reasonable in our setting as merit considerations typically overlay ex-ante fairness concerns (Cappelen et al. 2013; Durante, Putterman, and van der Weele 2014; Cappelen et al. 2017).

this information with a simple price list. In this price list, we present participants with eight scenarios in which they have to decide between seeing the information or receiving extra money, with amounts ranging from \$0.01 to \$0.50. For instance, in Scenario 1 they have to choose between seeing information and receiving \$0.01, and in Scenario 8 they have to choose between seeing information and receiving \$0.50. To incentivize participants, we randomly pick one of the eight scenarios for each participant and implement their choice in this scenario. That is, a participant will either receive the information immediately after the price-list decision or receive the extra money at the end of the survey. In a last step, all participants who have received the information and a random subset of the remaining participants (50%) have the opportunity to revise their tax rate (“Revised Tax Rate”). Note that we only implement the revised tax rate if the first tax proposal from that participant was initially chosen for implementation. Finally, participants receive a detailed overview about the composition of their final payout.

**Implementation:** We used the open source software oTree (Chen, Schonger, and Wickens 2016) to program and run the study. We recruited and paid participants via Amazon Mechanical Turk (MTurk). This platform offers access to a quite diverse population (e.g. Berinsky, Huber, and Lenz 2011; Buhrmester, Kwang, and Gosling 2011; Arechar, Kraft-Todd, and Rand 2017) and mounting evidence suggests that the findings of studies run on MTurk are robust to results using other subject populations, such as student, convenience, and nationally representative samples (e.g. Horton, Rand, and Zeckhauser 2011; Arechar, Gächter, and Molleman 2018; Coppock and McClellan 2019; Snowberg and Yariv 2020). However, some researchers have noted that data quality has recently declined, in particular due to automated responses (bots) and inattention (Ahler, Roush, and Sood 2020; Chmielewski and Kucker 2020). To address these concerns, we took several precautionary measures. First, we limited participation to MTurkers based in the US with more than 1000 performed Human Intelligence Tasks (HITs) and an acceptance rate of at least 98%. Second, we used a simplified CAPTCHA (adding two numbers) to screen for bots, i.e. only participants that correctly answered this question could access our survey. Third, the letter sequences in the work assignment were in non-machine-readable format, providing another layer of protection against bots.

We also took great care to address other practical challenges associated with running experiments on an online platform such as MTurk. First, MTurkers often multitask and work simultaneously on several HITs. To minimize inattention due to switching between HITs, we requested in the beginning that participants should exclusively work on our HIT, and stated that they have a total of 20 minutes to complete the HIT, that there are timeouts on each question, and that any payment is

conditional on completing the HIT within the time limit. The timeouts are set such that participants have sufficient time to thoughtfully answer our questions, yet they must remain attentive. Moreover, we paid a relatively high flat payment of \$0.75 and promised substantial additional payments. On average, participants earned about \$1.90, which is substantially above the US minimum wage considering our usual HIT duration of 12 minutes.

Second, since participants typically do not arrive simultaneously, we designed the experiment such that the survey and the work assignment can be completed independently. There was, however, one important exception. To determine the bonus payment, it is necessary to compare two participants' performances in the real-effort task. For this reason, every participant entered a virtual waiting room before the announcement of the bonus payment. If a suitable matching partner was already waiting, participants were immediately matched and each could independently work through the rest of the survey. If there was no matching partner available, participants had to wait for a minimum of three minutes. As soon as a suitable matching partner arrived in the waiting room, they were matched. Participants had the possibility to end the survey after three minutes (if no suitable matching partner had arrived), in which case they only received the base payment. Alternatively, they could continue waiting until they were matched (but they ran the risk of exceeding the HIT time limit, in which case they received no payment).

Finally, we aimed to minimize the risk of participants dropping out before completing the survey. Despite numerous possibilities for dropping out voluntarily or involuntarily (e.g. if no matching partner is available), internal validity is only threatened by dropouts after the announcement of the bonus payment (which depends on the random task assignment). As long as such dropouts are random across the treatment, our treatment estimates remain unbiased (as it is the case, as shown below). However, we also took some steps to minimize this risk ex-ante. We informed participants that they would not receive any payment *and* no HIT approval if they dropped out due to a time out. Evidence suggests that these are sensible requirements, as MTurkers are sensitive to rejections (a low approval rate prevents them from participating in HITs that require a high approval rate; see Hara et al. (2018)).

**Attrition and sample characteristics:** The overall attrition rate was about 9 percent, which is comparatively low for this type of study.<sup>4</sup> In total, 2,026 participants started the work assignment and

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<sup>4</sup> For example, Kuziemko et al. (2015) report an attrition rate of 15 percent in survey experiment and Arechar, Gächter, and Molleman (2018) report an attrition rate of 18 percent in an interactive online experiment.

1,845 participants finished all tasks.<sup>5</sup> Importantly, attrition was random across the treatment assignment (10 percent in the *hard* and 8 percent in the *easy* task, t-test,  $p=0.25$ ). The low level of attrition illustrates the effectiveness of the implemented measures to minimize dropouts and suggests that the treatment assignment did not cause participants to quit our HIT. A regression of an indicator for dropouts on the treatment indicator shows no difference in the likelihood of attrition between the *easy* and *hard* treatment (see Appendix Table A1).<sup>6</sup> Moreover, comparing socio-demographic characteristics (including political views) of dropouts and non-dropouts reveals no differences (see Appendix Table A2). Across 30 tests, there is no single t-statistic above 1.96. Therefore, attrition is unlikely to affect our results.

In our final sample, we dropped 20 participants, because they ended up with the same score and the bonus was split equally within pairs. This leaves us with 1,825 observations. In Appendix Table A3, we show that the participants do not differ along a large set of observables in the two tasks. A joint test for all observables being equal to zero reveals an F-statistic of 1.09 ( $p=0.35$ ). Moreover, comparing our MTurk sample with data from the US census reveals remarkable similarities along a large set of observables. Our sample closely matches the US population in terms of age, gender, marital status, household size and income, and geographic location, but white and educated people are overrepresented (see Appendix Table A4).

### 3 Empirical Strategy

Our treatment involves the random assignment of participants to the *easy* and *hard task*. Participants know at the outset that they will be assigned to one of the two tasks with equal probability and that they will be randomly matched to a participant completing the other task. Importantly, they do not learn and cannot infer the difficulty of the task from the task itself. We calibrated the difficulty of the two tasks such that the participant assigned to the *easy task* can easily outperform his or her counterpart assigned to the *hard task*. Consequently, economic success (i.e. receiving the \$2 bonus payment)

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<sup>5</sup> A total of 2,535 MTurkers accepted our HIT. Of those, 383 failed on the simple CAPTCHA, which served as a first robot control, and 105 did not finish the demographics survey. Our work assignment served as a second robot control as we displayed the tasks in non-machine-readable format and 21 MTurkers dropped out after the survey but before the work assignment resulting in our final sample of 2,026.

<sup>6</sup> The coefficient for the treatment indicator is -0.015 (s.e. 0.013). The same is true if we run the same regression but only consider dropouts after participants learned about the bonus assignment (coefficient -0.013, s.e. 0.009).

should coincide with the random assignment to the *easy task*. This allows us to identify the causal effect of economic success on meritocratic beliefs and behavior.

In practice, treatment compliance was, however, not perfect. About 6 percent of participants assigned to the *hard task* had a better performance than their matched counterparts in the *easy task* (for details, see Section 4.1). To deal with this non-compliance, we use the treatment assignment (*easy* or *hard task*) to estimate *intention-to-treat (ITT)* effects. The general regression framework thus takes the following form:

$$Y_i = \beta_0 + \beta_1 EasyTask_i + \gamma X + \varepsilon_i \quad (1)$$

where  $Y_i$  is one of our outcome variables (i.e. our belief measures and the tax rate),  $EasyTask_i$  indicates if a participant was randomly assigned to the *easy task*,  $X$  is a set of standard controls (including gender, age, marital status, education level, ethnicity, employment status, and household income), and  $\varepsilon_i$  is an individual-specific error term. In some specifications, we consider participants' political views by including its interaction with the treatment. For this purpose, we asked participants about their political orientation ranging from "strongly liberal" to "strongly conservative" (on a 6-point scale) and classify them as liberal if they indicate that they are "strongly liberal", "moderately liberal" or "slightly liberal."<sup>7</sup> We run OLS regressions, use robust standard errors, and estimate (1) with and without controls.

Because non-compliance is low, we report ITT estimates throughout the paper, and relegate and discuss the IV estimates (effects of the treatment on the treated) to Online Appendix A5. These estimates are similar in magnitude to the ITT estimates. Therefore, we interpret our results reported below as the effect of the bonus assignment or economic success. We pre-specified the analysis in our pre-analysis plan (AEARCTR-0004455) and we follow this plan if not stated otherwise.

## 4 Results

Our aim is to explore whether economic success affects how people think about the role of merit and whether it affects inequality acceptance (i.e. participants' attitudes toward redistributive taxation). We present three sets of results. First, we document participants' perception about merit in the work assignment and examine how these perceptions change with the exogenous bonus assignment

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<sup>7</sup> We also asked participants about their party affiliation (Republican, Democrat, other). Our results do not change if we use this information or a combination of both questions in our analysis.

Second, we examine how perceptions of merit affect redistributive choices. Third, we are interested in participants' willingness to learn about the underlying determinant of their success.

#### 4.1 Work Assignment and Prior Beliefs

We start by looking at participants' performance in the two tasks. Table 1 provides an overview. It is apparent that, on average, participants in the *easy task* coded substantially more sequences of letters compared to participants in the *hard task* (35 vs. 10). However, as indicated above, the scores in the two tasks overlap to some extent. That is, the 90th percentile in the *hard task* is 17, while the 10th percentile in the *easy task* is 16. This overlap results in a non-compliance to the treatment assignment in about 6 percent of cases, because the bonus is paid to a participant completing the *hard task*, instead of the participant performing the *easy task*.

Figure 1 shows participants' beliefs regarding task difficulty, their deservingness of the bonus, and their relative performance prior to the announcement of the bonus payment. As shown in the figure, actually performing the task was a weak signal of task difficulty, as intended. Nevertheless, participants had some notion of their task assignment: 67.9 percent of participants in the *hard task* thought they had been assigned to the *hard task*, which is significantly above 50 percent ( $p < 0.001$ , two-sided t-test). Similarly, 62.8 percent of participants in the *easy task* thought they had been assigned to the *easy task*. Again, this is significantly different from chance ( $p < 0.001$ , two-sided t-test).

At the same time, we observe that participants in the *easy task* find themselves as more deserving of the \$2 bonus compared to participants in the *hard task* (75.2 percent vs. 71.9 percent,  $p < 0.05$ , two-sided t-test). This is notable, as it suggests that performance (i.e. coding a larger number of sequences) creates a perception that one worked *hard* and thus deserves a bonus. Indeed, performance and perceptions of deservingness are strongly correlated (each point increase in performance increases beliefs in deservingness by approximately 0.28 percentage points; see Figure A1). In line with this finding, we observe that coding more sequences, on average, is related to the impression that one ranks higher in the performance distribution. Specifically, participants in the *easy task* thought they outperformed 54 percent of other participants completing the same task, whereas participants in the *hard task* thought they were better than 52 percent of those completing the *hard task*. Although this difference is small, it is statistically significant ( $p < 0.05$ , two-sided t-test). Interestingly, political views are not related to beliefs about deservingness and performance. That is, these beliefs do not differ between liberals and conservatives.

## 4.2 Effects on Posterior Beliefs

Figure 2 displays the difference between posterior and prior beliefs and thus illustrates how economic success (i.e. bonus assignment) changes beliefs. Notably, the bonus announcement does not change perceptions of task difficulty. However, we observe that bonus announcement results in significant changes in perceived deservingness and relative performance. We see that economic success increases perceived merit by 5 percentage points, while at the same time, failure decreases perceived merit by almost 6 percentage points. This further increases the wedge in merit perceptions between successful and unsuccessful participants. Economic success results in a 14 percentage point higher belief that receiving the bonus payment is deserved.

Similarly, success increases belief in relative performance but decreases it for those who are left empty-handed. Participants in the *easy task* think their performance is better than 60 percent of others, while participants in the *hard task* think their performance is only better than 47 percent of others. This suggests that being successful also triggers overconfidence. Indeed, if we compare how participants' posterior beliefs about relative performance compare to their true rank in the performance distribution of all participants completing the same task, we see a higher share of overconfident participants in the *easy task* than in the *hard task* (0.59 vs. 0.46; t-test,  $p < 0.01$ ). This is not the case before the bonus announcement, i.e. if we compare prior beliefs about relative performance to the true rank. In this case, the share of overconfident participants in the *easy task* is nearly the same as in the *hard task* (0.52 vs. 0.50; t-test,  $p < 0.37$ ).

Table 2 presents rigorous statistical evidence on how economic success impacts these perceptions. We regress the difference between posterior and prior beliefs on a treatment indicator, participants' political beliefs, and its interaction with the treatment indicator. To compare the results from this exercise with the observed patterns in the raw data we include a specification without political beliefs and covariates. There are several things to note. First, it is apparent that the regressions confirm the results presented above. Receiving the bonus has no effect on the perceived task difficulty, while it increases participants' perceptions that they deserve the bonus and that they performed better than others. Second, one can see in columns 3, 6, and 9 that controlling for participants demographic and economic status (such as gender, age, education, income, household size, ethnicity, employment status, marital status, and geographic indicators) does not meaningfully affect the estimated treatment effects. Third, political views are largely unrelated to changes in beliefs. In

particular, we observe equally strong feelings of deserving the bonus among liberals and conservatives, and they do not differ in their perceptions of task difficulty.

Overall, our treatment resulted in strong effects on beliefs. Most notably, there is a sizable impact on perceptions of deservingness that is independent of political views.

### 4.3 Behavioral Measure: Redistributive Taxes

We now address how misperceptions of economic success translate into tax preferences. Panel a. of Figure 3 shows a strong divergence of tax rates across the two conditions: the average tax rate in the *easy task* is about 20.6 percent and in the *hard task* about 60.2 percent. Despite this divergence, it is apparent that fairness considerations matter. That is, tax rates are far from the extremes of no and full redistribution. In Table 3, we present regressions showing how success and failure shape redistributive tax-rate decisions. The first column confirms that the proposed tax rate is about 40 percentage points lower if participants received the \$2 bonus. This effect is substantial and corresponds to a 3-times lower tax revenue. Including covariates does not change the estimate (column 2).

Next, we examine the relationship between tax-rate decisions and political views using pre-treatment information on participants' self-assessment in the political left-right spectrum. Panel b. of Figure 3 illustrates that economic circumstances affect redistributive preferences irrespective of political views: conservatives *and* liberals prefer high taxes if they are unsuccessful whereas they both choose low taxes if they are successful. However, it is also true that liberals propose, on average, higher tax rates than conservatives. Specifically, the difference in tax rates is about 8 percentage points in the *hard task* (t-test,  $p < 0.01$ ), while it is about 3 percentage points in the *easy task* (t-test,  $p < 0.06$ ). While this finding echoes correlational evidence that liberal voters are more favorable toward taxation (Wahlund 1992; Reed 2006; Hardisty, Johnson, and Weber 2010), the differences are small, particularly among those who are successful.

Following our pre-analysis plan, we corroborate these findings using a similar regression specification as above. In Table 3, column 3, we observe that, on average, liberals demand more redistribution, and thus set a higher tax rate than conservatives. Interacting treatment status with political views, we find a negative and statistically insignificant effect, which corresponds to roughly half of the difference between liberals and conservatives in the *hard task*. That is, while liberals tend to set higher tax rates than conservatives, the difference in the *easy task* is substantially smaller than in the *hard task*. Again, adding covariates does not change the coefficient estimates (columns 4 and 6).

#### 4.4 Impact of Beliefs on Redistributive Taxes

Differences in tax preferences between liberals and conservatives are often associated with differences in beliefs about the role of effort in economic success. Liberals tend to assign luck a greater role in economic success than effort, while conservatives believe that effort dominates (Gromet, Hartson, and Sherman 2015; Karadja, Mollerstrom, and Seim 2017; Fehr, Muller, and Preuss 2020). Indeed, when asking participants whether they think economic success is the result of luck or effort, liberals are less likely to believe the bonus payment is the result of effort (see Table 2 columns 11 and 12).<sup>8</sup> This finding accords with liberals' "locus of control": that is, liberals are more likely to believe life outcomes are the result of fate or luck, and therefore beyond one's control (see Appendix Table A8). However, the correlation between locus of control (LoC) and political orientation is not strong, and we find that LoC itself has no impact on tax rate preferences. In the Appendix Table A9, we regress the tax rate on our treatment, LoC, and the interaction of the two and find no measurable effect of LoC on tax rate preferences.

To shed light on the factors underlying tax-rate decisions, we examine how they relate to beliefs. We are particularly interested in the heterogeneity with respect to prior beliefs about the task. All beliefs (except beliefs that effort determines success) were elicited *before* the bonus announcement and thus reflect heterogeneity in beliefs that are unaffected by the bonus announcement. We include these perceptions about the work assignment one-by-one in the regressions and additionally control for a full set of covariates. Table 4 presents the results and reproduces, for comparison, the treatment effect on taxation in columns 1–2. In line with the previous literature, we find that a stronger belief that effort determines success reduces tax rates in both conditions (column 3). That is, participants are less willing to redistribute if they more strongly believe that the bonus is the result of hard work.

Examining heterogeneous effects offers a more nuanced picture of possible mechanisms, even though we observe in all specifications that beliefs are related to the tax-rate decision. We first note that beliefs about task difficulty are positively related to taxes in the case of failure, while they are negatively related when successful (column 4). That is, in both treatments we see that participants who are more certain about task difficulty react more strongly by demanding more (*hard task*) and

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<sup>8</sup> The regression also reveals that in both tasks, participants believe that effort is more important than luck for success. However, the results in Table 1, column 10 highlight a strong disparity: successful participants believe to a much greater extent than unsuccessful participants that receiving the bonus is attributable to effort (16-percentage-point difference).

less taxes (*easy task*), respectively. There is a similar pattern for relative performance beliefs (column 5). Believing in stronger performance is associated with demanding a larger share of the pie, i.e. beliefs are positively related to taxes for economically unsuccessful participants and negatively related to taxes for the successful. Importantly, in both cases we observe a large and significant treatment effect.

In contrast to these observations, the treatment effect is no longer significant when we include beliefs about deservingness. The regressions in column 6 reveal that a higher belief in deserving the bonus payment is associated with a higher tax rate for unsuccessful participants, but not for successful participants. More precisely, a 1 percentage point higher belief in deserving the bonus payment is associated with a 0.23 percentage point higher tax rate for unsuccessful participants, but a 0.44 percentage point lower tax rate for successful participants. Given the effect size of the interaction term, the joint effect with prior beliefs is negative and significant as well (Wald test,  $p < 0.01$ ). This suggests that the treatment effect is mediated by the belief that success is an indicator of deservingness.

#### **4.5 Willingness to Correct Beliefs**

Thus far, we have shown that receiving the bonus caused a shift in perceived deservingness of the bonus and in beliefs about the role of effort for success. This shift in beliefs explains the substantial disparity in the willingness to redistribute, with successful participants proposing a lower tax rate than unsuccessful participants. Recall that we randomly assigned participants to the *easy* and *hard task* and that they only learned whether they received the \$2 bonus or not, but neither received information on which task they completed, nor the score of their opponent. This uncertainty in relation to task difficulty and performance allows participants to maintain distorted and self-serving beliefs about whether they deserve the bonus.

In a next step, we therefore examine whether participants are willing to pay for information that would allow them to update their beliefs about task difficulty and thus to verify their perceptions about the role of luck in success. We elicited participants' willingness to pay (WTP) with the help of an incentivized price list in the last part of the survey. That is, participants had to choose between receiving an additional sum (which varied between 1, 3, 5, 7, 10, 20, 35, and 50 cents) or information about the difficulty of the completed task and the score of their opponent.

Figure 4 shows the distribution of participants' WTP with consistent answers, separated by task.<sup>9</sup> It is apparent that in both tasks a significant share of the participants are not interested in the information and always opt for the money (46 percent in the *hard task* and 52 percent in the *easy task*) and that WTP is lower in the *easy task*. At the same time, there is a sizable share of participants who are interested in learning about task difficulty. In Table 5, we use interval regressions to provide statistical support for these observations. Column 1 reveals that the average WTP in the *hard task* is about 7.4 cents, and about 1 cent lower in the *easy task*, a 14 percent lower WTP. Adding controls in column 2 leaves the coefficient of the treatment variable nearly unchanged. Moreover, we see that political views play no role in willingness to obtain information: liberals and conservatives display a similar willingness to pay. These findings suggest that participants are more likely to prefer remaining ignorant when they are successful, possibly to maintain their meritocratic beliefs, and this applies to liberals and conservatives in equal degree.

Next, we examine whether obtaining information about task difficulty and the opponents' score leads to revised tax-rate preferences. All participants who received the information (approx. 25 percent) and a random subset of the remaining participants (approx. 50 percent) had the possibility to revise their tax decision. This results in a sample of  $N=1,130$ . In a slight deviation from our pre-analysis plan, we look here at the likelihood of participants changing the tax rate *and* the magnitude of change. In all regression specifications, we control for WTP as participants with a higher WTP have a higher probability of receiving the information. In other words, receiving information is only random after conditioning on WTP. Table 6 displays the results. Conditional on WTP, receiving information increases the likelihood of revising the tax rate by 27 percent. However, once we control for treatment status and political views (including a full set of interactions) the coefficient estimate becomes substantially smaller and insignificant. Instead, we see that the likelihood of revising the tax rate is lower for liberals (columns 3 and 4). Columns 5–8 present the effects on the magnitude of change. Again, we see that receiving information leads to larger changes in the tax rate than not receiving information. Controlling for treatment status and political views indicates that changes are

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<sup>9</sup> As is typically the case with this procedure, a few participants displayed inconsistent behavior by switching multiple times between buying information and keeping the offered amount of money. The share of inconsistent participants is 3 percent, which is at the lower end of the range observed in other papers using a similar procedure. For example, Fehr, Mollerstrom, and Perez-Truglia (2019) and Fuster, Perez-Truglia, and Zafar (2018) report 5 percent inconsistent choices, whereas Cullen and Perez-Truglia (2018) report 15 percent. Note that the low rate of inconsistent answers also speaks to the attentiveness of participants.

smaller in the *easy task* and for liberals irrespective of treatment status, while the coefficient on received information is less precisely estimated.

Together, these results suggest that participants in the *easy task* want to maintain their meritocratic beliefs to justify their tax decision, and this tendency is particularly pronounced among liberals.

#### 4.6 Exploratory Analysis: Impact of Correcting Misperceptions on Behavior

Given the variation in beliefs about task difficulty, the impact of information disclosure may differ substantially across participants. For example, a participant who is relatively certain about having worked on the *hard task* will not be too surprised to learn that she was in fact assigned to the *hard task*, thus making her less likely revise her tax-rate decision. To capture this effect and to account for the fact that a subset of participants received no information and therefore could not update their beliefs, we estimate the following regression model:

$$Y_i = \beta_1 \cdot (100 - b_i^{posterior}) \cdot R_i + \beta_2 \cdot (100 - b_i^{posterior}) + WTP_i + \gamma X + \varepsilon_i$$

where  $Y_i$  is an indicator for revising the tax rate (or not), or the absolute value of the change in the tax rate.  $b_i^{posterior}$  is the posterior belief about task difficulty and  $R_i$  is a binary variable, indicating whether a participant received information or not. The parameter of interest is  $\beta_1$ , which shows the causal effect (conditional on WTP) of receiving information on task difficulty, i.e. the effect of learning that the likelihood of being in the *hard/easy task* is 1 percentage point higher than previously thought. The variable  $(100 - b_i^{posterior})$  controls for non-random variation in misperceptions about the task difficulty, which ensures that  $\beta_1$  is identified by random variation in receiving information about task difficulty. This analysis is exploratory, as we did not specify it in our pre-analysis plan.

In Table 7, column 1, we see that the information shock has no effect on the likelihood of changing the tax rate. The coefficient is close to zero and precisely estimated. Controlling for treatment status (column 3) reveals that participants in the *easy task* are less likely to revise the tax rate, which is in line with the estimates in Table 6. This negative effect on taxes is only present among conservatives (column 5), but not among liberals (column 4) when controlling for the news shock ( $\beta_1$ ). In contrast to these results, the information shock has a significant and positive effect on the size of the tax revisions. Learning that the task difficulty is 10 percentage point higher than previously thought results in a 5 percentage point larger change in tax rate (column 6). This is sizable given that

the average bias is about 33 percentage points. Adding covariates in column 7 and controlling for treatment status in column 8 leaves the coefficient estimate for information unchanged. If we differentiate between political views, we see that liberals drive this effect. They react strongly to the information shock (column 9), while conservatives do not react at all (column 10). To summarize, the information shock has no influence on the decision to revise the tax, but if participants revise their tax rate, changes are larger for liberals who experienced a larger information shock.

## 5 Discussion

We conducted a large-scale online experiment to investigate how “randomness” in economic success affects meritocratic beliefs and redistributive preferences when participants have an opportunity to “mentally” justify their success by attributing it to their own effort. Our results demonstrate that experiencing economic success or failure leads to a significant divergence in meritocratic beliefs and inequality acceptance. Successful participants believe they are more deserving of the bonus and demand substantially lower tax rates than unsuccessful participants.

Participants are well aware of the random assignment to one of two tasks that differ in difficulty. Therefore, it is very salient for matched participants that one of them has an easier path to success. Meritocratic principles would call for redistribution in such a situation, as circumstances are beyond one’s control (e.g. Cappelen et al. 2007). At the same time, however, participants have an incentive to reap the full material benefits of their success. This conflict between self-interest and fairness principles may result in cognitive dissonance (Festinger 1957). To reduce this tension, people may follow different strategies: one may reduce self-interested behavior, or, alternatively, engage in self-deceptive behavior by manipulating their own beliefs (Konow 2000).

The latter strategy appears to be visible in our data, as participants adapt their beliefs to reconcile their wish for maximizing outcomes with the wish for a fair outcome. This is evident based on the share of successful participants who believe they deserve the bonus, which increases substantially in the *easy task* after the bonus announcement. Moreover, it is in accordance with their belief that effort determines success. Consequently, to resolve this cognitive dissonance, participants try to uphold their beliefs in a self-serving manner (Loewenstein et al. 1993). This may also explain why participants in the *easy task* have a lower willingness-to-pay for information about task difficulty and score of the other participant. Köszegi (2006) refers to this the “self-image protection motive,” which

impels individuals to avoid information that might distort existing beliefs. That participants have a fairly good sense of the difficulty of the task they performed is indicative of the strength of this motive.

There is widespread support for meritocratic principles in modern societies. Indeed, few would disagree that people should be able to climb the ladder of success and reap its associated rewards, if they only work hard enough. Against the backdrop of rising inequality, it is therefore unsurprising that academics, policymakers and voters have repeatedly called for greater equality of opportunity to achieve this ideal. Nevertheless, in most countries, reality diverges sharply from the meritocratic ideal. Social mobility within the United States, for example, is among the lowest across developed countries, in no small part due to inequality of opportunity (Corak 2006; Chetty et al. 2014; Chetty et al. 2017). These unequal opportunities are particularly pronounced in the college admission process. The most selective colleges in the US, which also offer the best earning prospects, predominantly enroll students from affluent families. Indeed, the share of students at elite colleges coming from families in the top 1% of the income distribution is higher than the share from the bottom 50% (Chetty et al. 2020). Given the strong correlation between college affiliation and income, some individuals clearly have a much easier route to success than others. Our setting seeks to replicate this uneven playing field. Although the conditions of unequal opportunity in our setting are arguably more salient than in many real-world settings, our results nevertheless suggest that success is typically viewed as a reward for ability and effort, and not as the result of luck. Consequently, people may cling to the belief that going from rags to riches is possible given enough effort, allowing meritocratic beliefs to prevail despite structurally predetermined unfair outcomes.

This tendency to uphold meritocratic beliefs also illustrates a potentially dark side of meritocracy. According to our data, successful participants self-servingly opt for lower tax rates because they feel entitled to their high income. Their success may, however, also distort their perception of others' meritocratic credentials. The psychological literature suggests that people are more likely remember the obstacles they faced than the advantages they had (e.g. Davidai and Gilovich 2016). This asymmetry may induce people to attribute others' failure to a lack of effort and perseverance, and this tendency may be particularly pronounced in successful people who have managed to overcome the hurdles they faced. In this way, our results suggest that attribution of success solely to personal merit may be an important impediment to encouraging greater fairness and equality in socioeconomic outcomes.

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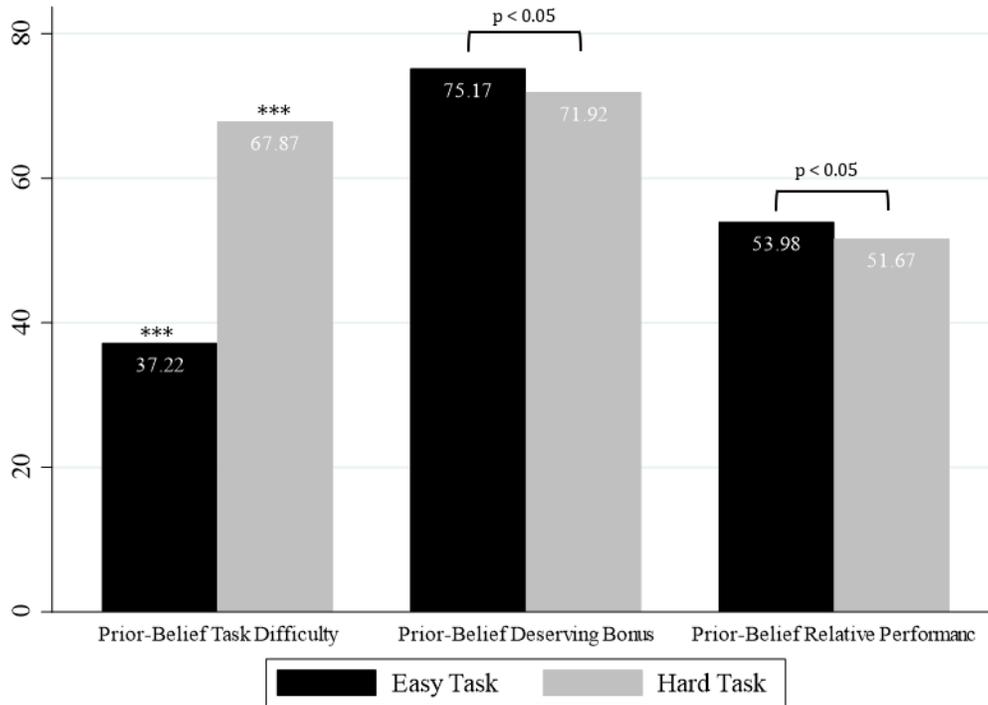
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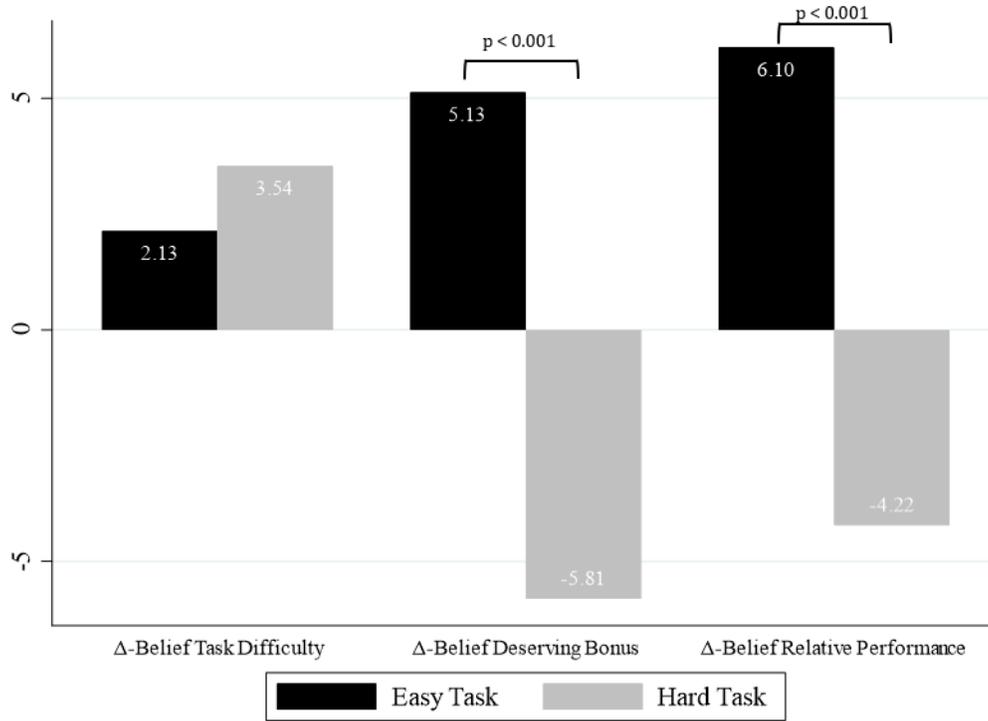
## Figures and Tables

**Figure 1. Prior Beliefs by Treatment**



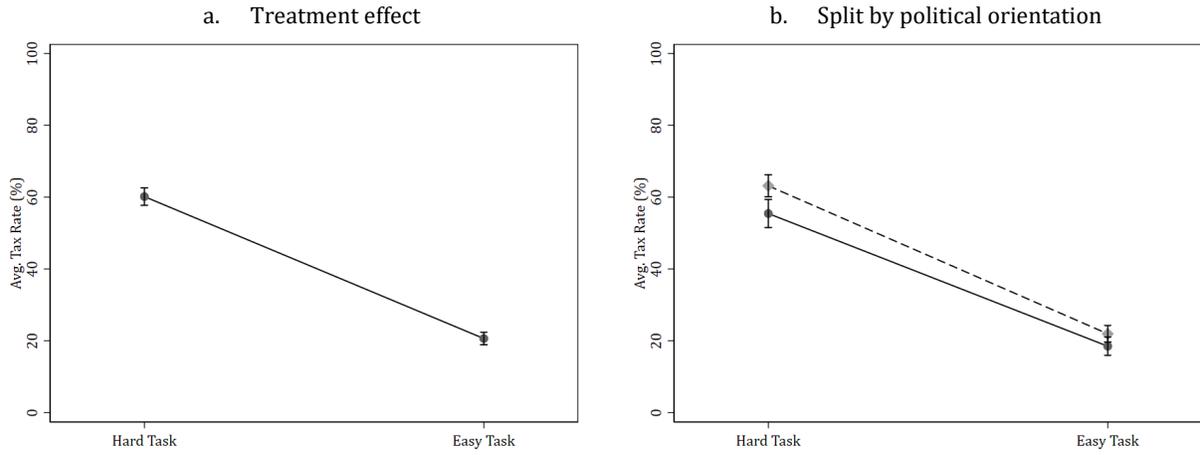
Notes: The Figure shows prior beliefs about task difficulty, deservingness, and relative performance that we elicited before revealing the bonus assignment. All beliefs are measured on a scale from 0 – 100: “Prior Belief, Task Difficulty”: likelihood of performing in the *hard task* in %; “Prior Belief, Deserving Bonus”: deserving the \$2-bonus payment in %; “Prior, Belief Relative Performance”: perceived number of participants performing the same task with a lower score. \*\*\* indicates significant difference from 50% at the 1% level, two-sided t-test. P-values based on t-tests.

**Figure 2. Treatment Effect on Beliefs**



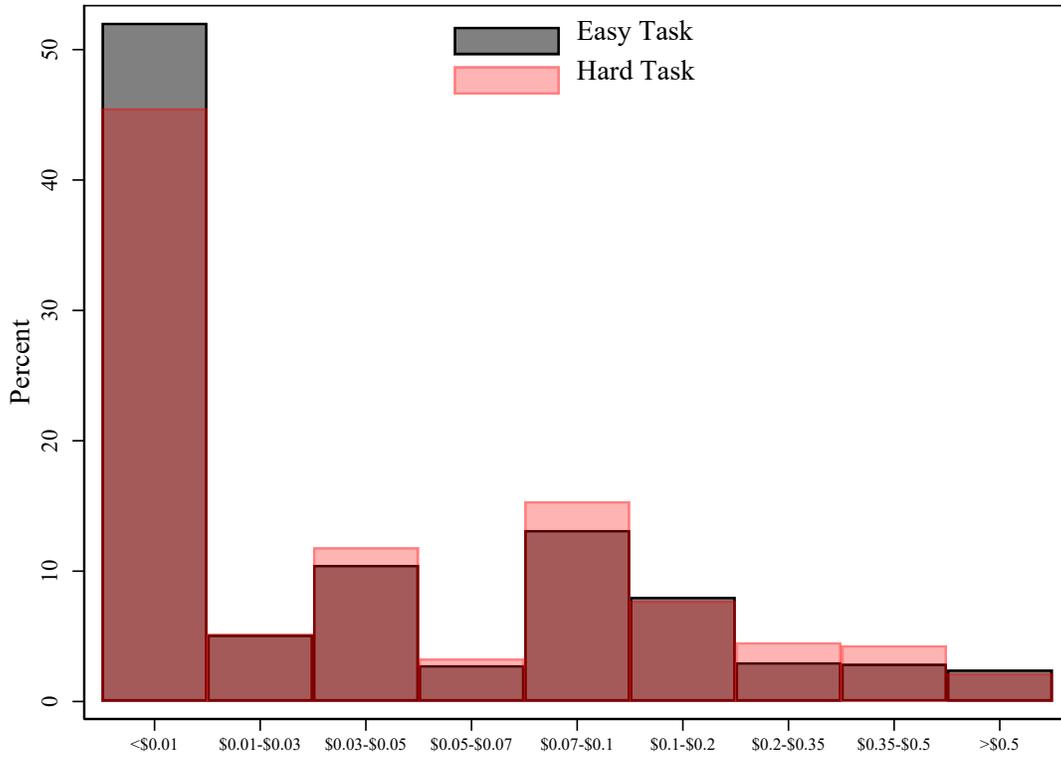
Notes: The Figure shows the difference between posterior and prior beliefs about task difficulty, deservingness, and performance in the two conditions. All beliefs are measured on a scale from 0 – 100: “Prior Belief, Task Difficulty”: likelihood of performing in the *hard task* in %; “Prior Belief, Deserving Bonus”: deserving the \$2-bonus payment in %; “Prior Belief, Relative Performance”: perceived number of participants performing the same task with a lower score.

**Figure 3. Tax Rate by Treatment and Political Orientation**



Notes: The Figure shows the average tax rate across different conditions. Panel a. displays average tax rates across treatments (*hard task* and *easy task*) and panel b. shows the average tax rates across condition split by political orientation. Conservatives (solid black line) and liberals (dashed light-gray line). Error bars denote 95% confidence interval.

**Figure 4. Willingness-to-Pay for Information on Task Difficulty**



Notes: The figure shows the distribution of respondents' willingness to pay (WTP) for information about the task difficulty (using all participants with consistent answers:  $N=1,776$ ). The grey bars indicate the WTP in the easy task and the overlaying red bars the WTP in the hard task. An amount smaller than \$0.01 indicates that the participant always preferred money over information and vice versa for an amount larger than \$0.50.

**Table 1. Comparison of Exogenous Task Difficulty (Treatment)**

<b>Difficulty</b>	<b>Mean</b>	<b>Standard Deviation</b>	<b><i>P</i><sub>10</sub></b>	<b><i>P</i><sub>50</sub></b>	<b><i>P</i><sub>90</sub></b>
<i>Hard</i>	10.25	5.45	4	10	17
<i>Easy</i>	34.86	15.47	16	33	56

Notes: Mean, standard deviation and percentile of correct letter sequences by treatment

**Table 2. Regression: Change in Beliefs (Posterior – Prior)**

Dep. Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	$\Delta$ - Belief Task Difficulty	$\Delta$ - Belief Task Difficulty	$\Delta$ - Belief Task Difficulty	$\Delta$ - Belief Deserving Bonus	$\Delta$ - Belief Deserving Bonus	$\Delta$ - Belief Relative Performance	$\Delta$ - Belief Relative Performance	$\Delta$ - Belief Relative Performance	Effort Determines Success	Effort Determines Success	Effort Determines Success	Effort Determines Success
<i>Easy task</i>	-1.404 (0.934)	-0.703 (1.374)	-0.745 (1.373)	10.943*** (0.882)	11.418*** (1.478)	11.150*** (1.472)	10.324*** (0.713)	8.571*** (1.167)	8.404*** (1.173)	16.213*** (1.355)	16.358*** (2.123)	16.465*** (2.126)
Liberal		-0.269 (1.349)	0.001 (1.370)	0.619 (1.496)	0.221 (1.493)		-0.898 (1.069)		-0.897 (1.082)		-3.905* (2.184)	-4.014* (2.216)
Liberal x <i>Easy task</i>		-1.130 (1.859)	-1.007 (1.867)	-0.776 (1.840)	-0.620 (1.841)		2.844* (1.474)		2.995** (1.485)		-0.185 (2.752)	0.0813 (2.751)
Constant	3.538*** (0.683)	3.703*** (0.979)	-12.65* (7.446)	-5.811*** (0.710)	-6.190*** (1.221)	-8.671 (7.064)	-4.223*** (0.530)	-3.674*** (0.809)	-1.402 (5.827)	54.054*** (1.072)	56.439*** (1.691)	40.207*** (10.422)
Observations	1,825	1,825	1,822	1,825	1,825	1,822	1,825	1,825	1,822	1,825	1,825	1,822
Controls	No	No	Yes	No	No	Yes	No	No	Yes	No	No	Yes
R-squared	0.001	0.002	0.010	0.078	0.078	0.084	0.103	0.105	0.112	0.073	0.077	0.091

Notes: OLS-Regression with robust standard errors in parentheses. “ $\Delta$ ” is the difference between posterior and prior beliefs. Beliefs are elicited before the bonus assignment (prior) and after the bonus assignment (posterior). All beliefs are measured on a scale from 0 – 100: “Prior Belief, Task Difficulty”: likelihood of performing in the *hard task* in %; “Prior Belief, Deserving Bonus”: deserving the \$2-bonus payment in %; “Prior Belief, Relative Performance”: perceived number of participants performing the same task with a lower score; “Effort Determines Success”: likelihood that the \$2-bonus payment depends on her exerted effort in %. “*Easy task*” is an indicator for random assignment to the *easy task*. “Liberal” is an indicator for respondents who self-identified as strongly liberal, moderately liberal and slightly liberal. Controls include sex, age, household size, log income and a set of indicator variables for white/European-American ethnicity, college degree, working, married and U.S.-regions (North, East, South, Midwest, West).

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1; # indicates significance, when using the adaptive linear step-up procedure by (Benjamini, Krieger, and Yekutieli 2006) that controls for a false discovery rate at q=0.05 for the treatment variable “*Easy task*”

**Table 3. Regression: Tax Rate and Political Views**

Dep. Variable	(1)	(2)	(3)	(4)	(5)	(6)
	Tax Rate					
<i>Easy task</i>	-39.543*** (1.519)	-39.445*** (1.528)	-39.588*** (1.513)	-39.486*** (1.523)	-36.959*** (2.381)	-36.730*** (2.409)
Liberal			5.586*** (1.540)	5.787*** (1.608)	7.729*** (2.535)	8.010*** (2.561)
Liberal x <i>Easy task</i>					-4.276 (3.082)	-4.476 (3.108)
Constant	60.165*** (1.237)	72.095*** (11.360)	56.753*** (1.560)	67.010*** (11.43)	55.445*** (1.994)	66.226*** (11.454)
Observations	1,825	1,822	1,825	1,822	1,825	1,822
Controls	No	Yes	No	Yes	No	Yes
R-squared	0.272	0.277	0.277	0.282	0.278	0.283

Notes: OLS-Regression with robust standard errors in parentheses. "Tax Rate" is the redistribution rate of the \$2-bonus payment in percent (0-100). "*Easy task*" is an indicator for respondents randomly assigned to the *easy task*. "Liberal" is an indicator for respondents who self-identified as strongly liberal, moderately liberal and slightly liberal. Controls include sex, age, household size, log income and dummy variables indicating white/European-American ethnicity, college degree, working, married and U.S.-regions.

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Table 4. Regression: Tax Rate and Beliefs**

Dep. Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)
<i>Easy task</i>	-39.543*** (1.519)	-39.445*** (1.528)	-44.599*** (3.765)	-27.695*** (3.792)	-16.049*** (3.751)	-6.828 (4.388)	3.196 (5.302)
Prior Belief, Task Difficulty				0.176*** (0.048)			0.123**/# (0.049)
<i>Easy task</i> x Prior Belief, Task Difficulty				-0.171*** (0.057)			-0.091 (0.059)
Prior Belief, Relative Performance					0.256*** (0.051)		0.126** (0.064)
<i>Easy task</i> x Prior Belief, Relative Performance					-0.444*** (0.065)		-0.226***/# (0.079)
Prior Belief, Deserving Bonus						0.228*** (0.042)	0.143***/# (0.053)
<i>Easy task</i> x Prior Belief, Deserving Bonus						-0.444*** (0.056)	-0.319***/# (0.069)
Effort Determines Success			-0.219*** (0.039)				
<i>Easy task</i> x Effort Determines Success			0.125** (0.055)				
Constant	60.165*** (1.237)	72.095*** (11.360)	81.631*** (11.537)	60.496*** (11.690)	57.002*** (11.618)	51.022*** (11.614)	42.71*** (11.91)
Observations	1,825	1,822	1,822	1,822	1,822	1,822	1,822
Controls	No	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.272	0.277	0.296	0.284	0.303	0.297	0.310

Notes: OLS-Regression with robust standard errors in parentheses. "Tax Rate" is measured in percent (0-100 percent). "Easy task" is an indicator for random assignment to the *easy task*. Prior beliefs elicited before the bonus assignment and measured on a scale from 0 – 100: "Prior Belief, Task Difficulty": likelihood of performing in the *hard task* in %; "Prior Belief, Deserving Bonus": deserving the \$2-bonus payment in %; "Prior Belief, Relative Performance": perceived number of participants performing the same task with a lower score; "Effort Determines Success": likelihood that the \$2-bonus payment depends on her exerted effort in %. Controls include sex, age, household size, log income and a set of indicator variables for white/European-American ethnicity, college degree, working, married and U.S.-regions (North, East, South, Midwest, West).

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1; # indicates significance, when using the adaptive linear step-up procedure by (Benjamini, Krieger, and Yekutieli 2006) that controls for a false discovery rate at q=0.05 in column (6)

**Table 5. Regression: Willingness to Pay for Information**

Dep. Variable	(1)	(2)	(3)	(4)
			WTP	
<i>Easy task</i>	-0.991* (0.535)	-1.109** (0.531)	-0.990* (0.534)	-1.109** (0.531)
Liberal			-0.635 (0.565)	-0.213 (0.579)
Constant	7.367*** (0.403)	-0.892 (3.832)	7.760*** (0.558)	-0.697 (3.816)
Observations	1,776	1,773	1,776	1,773
Controls	No	Yes	No	Yes

Notes: Interval-Regression, robust standard errors in parentheses. The sample includes only participants with consistent answers, i.e. we dropped 49 participants who switched multiple times between a monetary amount and receiving information. "WTP" is the willingness to pay for receiving information about the task difficulty and the score of the other participant. The variable is categorized in 9 intervals [0¢,1¢]; [1¢,3¢]; [3¢,5¢]; [5¢,7¢]; [7¢,10¢]; [10¢,20¢]; [20¢,35¢]; [35¢,50¢]; [50¢,inf]. "*Easy task*" is an indicator for respondents randomly assigned to the *easy task* (treatment). "Liberal" is an indicator for respondents who self-identified as strongly liberal, moderately liberal and slightly liberal. Controls include sex, age, household size, log income and dummy variables indicating white/European-American ethnicity, college degree, working, married and U.S.-regions (North, East, South, Midwest, West).

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Table 6. Regression: Revising Tax Rates**

Dep. Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Revising Tax Rate=1				Change in Tax Rate			
Received info	0.078** (0.036)	0.081** (0.036)	0.009 (0.072)	0.024 (0.072)	3.787*** (1.231)	3.944*** (1.253)	4.495 (3.376)	4.782 (3.374)
<i>Easy task</i>			-0.093 (0.06)	-0.078 (0.06)			-4.617** (2.087)	-4.522** (2.042)
Liberal			-0.092* (0.055)	-0.103* (0.057)			-4.017** (1.954)	-4.455** (2.003)
<i>Easy task</i> x Liberal			0.051 (0.075)	0.042 (0.074)			2.935 (2.376)	3.211 (2.326)
<i>Easy task</i> x Received info			0.026 (0.098)	0.001 (0.097)			-1.216 (3.941)	-2.085 (3.932)
Liberal x Received info			0.084 (0.086)	0.076 (0.086)			-1.417 (3.599)	-1.225 (3.600)
<i>Easy task</i> x Liberal x Received info			0.003 (0.123)	0.026 (0.122)			2.567 (4.525)	3.178 (4.519)
WTP	0.313** (0.152)	0.278* (0.149)	0.309** (0.153)	0.271* (0.150)	4.032 (4.829)	1.858 (4.984)	2.799 (4.772)	0.716 (4.889)
Constant	0.285*** (0.018)	0.609*** (0.221)	0.374*** (0.045)	0.676*** (0.226)	4.647*** (0.534)	2.170 (6.809)	8.635*** (1.690)	5.833 (6.953)
Observations	1,096	1,094	1,096	1,094	1,096	1,094	1,096	1,094
Controls	No	Yes	No	Yes	No	Yes	No	Yes
R-squared	0.020	0.047	0.027	0.054	0.019	0.035	0.037	0.054

Notes: OLS-Regression, robust standard errors in parentheses. The sample includes all participants who had the opportunity to revise their initial tax decision, i.e. these are all participants who received information about the task difficulty and a random subset of participants who did not receive this information. "Revising Tax Rate=1" is an indicator for revising the initially chosen tax rate and "Change in Tax Rate" is the absolute difference between initial and revised tax rate. "Received info" is an indicator for participants who received information about the task difficulty and the performance of the other participant. "*Easy task*" is an indicator for participants randomly assigned to the *easy task* (treatment) and "Liberal" is an indicator for participants who self-identified as strongly liberal, moderately liberal and slightly liberal. "WTP" is the willingness to pay for receiving information about the task difficulty and the score of the other participant. The variable is categorized in 9 intervals [0¢,1¢]; [1¢,3¢]; [3¢,5¢]; [5¢,7¢]; [7¢,10¢]; [10¢,20¢]; [20¢,35¢]; [35¢,50¢]; [50¢,inf). Controls include sex, age, household size, log income and dummy variables indicating white/European-American ethnicity, college degree, working, married and U.S.-regions (North, East, South, Midwest, West).

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Table 7. Regression: Misperception about Task Difficulty and Revising Tax Rates**

Dep. Variable	(1)		(2)		(3)		(4)		(5)		(6)		(7)		(8)		(9)		(10)	
	All		All		All		Liberal		Conservative		All		All		All		Liberal		Conservative	
Misperception x Received Info	0.001 (0.001)	0.000 (0.001)	0.000 (0.001)	0.001 (0.001)	-0.000 (0.001)	0.048* (0.026)	0.048* (0.026)	0.048* (0.026)	0.000 (0.001)	0.048* (0.026)	0.048* (0.026)	0.048* (0.026)	0.048* (0.026)	0.048* (0.026)	0.046* (0.026)	0.046* (0.026)	0.081** (0.032)	0.081** (0.032)	0.004 (0.045)	0.004 (0.045)
Misperception	0.002*** (0.001)	0.002*** (0.001)	0.002*** (0.001)	0.001* (0.001)	0.002*** (0.001)	0.003 (0.017)	0.001* (0.001)	0.001 (0.001)	0.002*** (0.001)	0.003 (0.017)	0.001 (0.017)	0.001 (0.017)	0.001 (0.017)	0.001 (0.017)	0.011 (0.016)	0.011 (0.016)	-0.017 (0.016)	-0.017 (0.016)	0.044 (0.033)	0.044 (0.033)
<i>Easy task</i>			-0.084*** (0.029)	-0.055 (0.036)	-0.112** (0.047)										-3.160*** (0.896)	-3.160*** (0.896)	-1.329 (0.985)	-1.329 (0.985)	-5.279*** (1.750)	-5.279*** (1.750)
WTP	0.380*** (0.141)	0.361*** (0.138)	0.343** (0.137)	0.502*** (0.189)	0.130 (0.204)	7.981* (4.466)	0.130 (0.189)	0.130 (0.189)	0.130 (0.204)	0.130 (0.204)	0.130 (0.204)	0.130 (0.204)	0.130 (0.204)	0.130 (0.204)	5.765 (4.449)	5.765 (4.449)	4.831 (5.070)	4.831 (5.070)	6.998 (7.773)	6.998 (7.773)
Constant	0.253*** (0.022)	0.567*** (0.218)	0.595*** (0.218)	0.360 (0.278)	0.790** (0.368)	5.164*** (0.709)	0.360 (0.278)	0.360 (0.278)	0.790** (0.368)	5.164*** (0.709)	4.169 (6.839)	4.169 (6.839)	4.169 (6.839)	4.169 (6.839)	5.239 (6.850)	5.239 (6.850)	-5.223 (7.475)	-5.223 (7.475)	16.93 (13.40)	16.93 (13.40)
Observations	1,130	1,128	1,128	694	434	1,130	694	694	434	1,130	1,128	1,128	1,128	1,128	1,128	1,128	694	694	434	434
Controls	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.028	0.051	0.059	0.066	0.083	0.014	0.066	0.066	0.083	0.014	0.014	0.029	0.029	0.039	0.039	0.051	0.051	0.058	0.058	

Notes: OLS-Regression, robust standard errors in parentheses. The sample includes all participants who had the opportunity to revise their initial tax decision, i.e. these are all participants who received information about the task difficulty and a random subset of participants who did not receive this information. "Revising Tax Rate=1" is an indicator for revising the initially chosen tax rate and "Change in Tax Rate" is the absolute difference between initial and revised tax rate. "Misperception" indicates the difference between the actual task difficulty and the posterior belief about task difficulty in %. "Received Info" is an indicator for participants who received information about the task difficulty and the performance of the other participant. "Easy task" is an indicator for participants randomly assigned to the *easy task* (treatment). "WTP" is the willingness to pay for receiving information about the task difficulty and the score of the other participant. The variable is categorized in 9 intervals [0,1€]; [1,1€]; [1,2€]; [2,2€]; [2,3€]; [3,3€]; [3,4€]; [4,4€]; [4,5€]. Controls include sex, age, household size, log income and dummy variables indicating white/European-American ethnicity, college degree, working, married and U.S.-regions (North, East, South, Midwest, West).

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

## Online Appendix

# Misperceiving Economic Success: Experimental Evidence on Meritocratic Beliefs and Inequality Acceptance

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### A1. List of Covariates

- Gender (Male / Female / Other / I prefer not to say)
- Age (in years)
- Marital status (Single / Married)
- Education (Not completed high school/ High school/ Some college/ 2-year college degree/ 4-year college degree/ Masters degree/ Doctoral degree/ Professional degree (JD, MD))
- Ethnicity (White/European-American / Black/African-American / Asian/Asian-American/Pacific Islander / Hispanic/Latino / Other)
- Number of household members
- Political beliefs (Strongly liberal / Moderately liberal / Slightly liberal / Slightly conservative / Moderately conservative / Strongly conservative)
- Political party identification (Democratic Party/ Republican Party/ Other)
- US residence (Yes / No)
- Home state (list of US states)
- Employment status (Full-time employee / Part-time employee / Self-employed or small business owner / Unemployed and looking for work / Student / Not in labor force)
- Household income (\$0 - \$9,999 / \$10,000 - \$14,999 / \$15,000 - \$19,999 / \$20,000 - \$29,999 / \$30,000 - \$39,999 / \$40,000 - \$49,999 / \$50,000 - \$74,999 / \$75,000 - \$99,999 / \$100,000 - \$124,999 / \$125,000 - \$149,999 / \$150,000 - \$199,999 / \$200,000 and more)

## A2.Locus-of-Control Module

A person's locus of control describes the degree to which they feel to have control over the outcomes in their life. We elicit locus of control (LoC) with a 7-item battery (Cobb-Clark and Schurer 2013), and summarize the responses in a single measure that ranges between seven (full control over life, i.e. internal LoC) and 49 (no control over life, i.e. external LoC).

- a. "I have little control over the things that happen to me."
- b. "There is really no way I can solve some of the problems I have."
- c. "There is little I can do to change many of the important things in my life."
- d. "I often feel helpless in dealing with the problems of life."
- e. "Sometimes I feel that I'm being pushed around in life."
- f. "What happens to me in the future mostly depends on me."
- g. "I can do just about anything I really set my mind to do."

(7-point scale; Disagree strongly – Agree strongly)

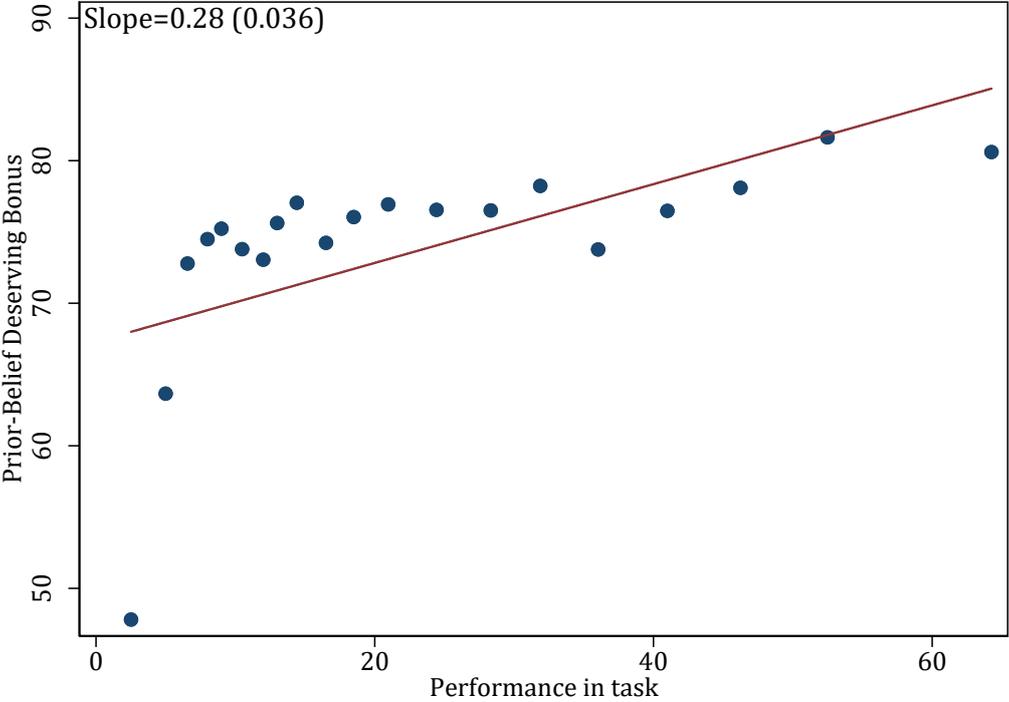
Calculating the combined locus of control index (L-o-C-Index) by summing responses to the five external items (a - e), subtracting the sum of responses to the two internal items (f - g) and adding 16. Specifically,

$$L - o - C - Index_i = \sum_{j=a}^e ELOC_{i,j} - \sum_{j=f}^g ILOC_{i,j} + 16$$

This index is therefore increasing in external control tendencies and is bounded between 7 (internal) and 49 (external).

**A3.Additional Figures**

**Figure A1: Relationship between Task Performance and Deservingness of Bonus**



Notes: Binned scatterplot showing the relationship between task performance and perceived deservingness of the bonus (Prior-Belief Deserving Bonus). Estimate based on whole sample ( $N=1,825$ ).

## A4.Additional Tables

**Table A1. Regression: Dropout on Easy Task**

Dep. Variable	(1) Dropout	(2) Dropout
<i>Easy task</i>	-0.016 (0.013)	-0.013 (0.009)
Constant	-0.014*** (0.010)	0.044*** (0.007)
Observations	2,027	1,987
Controls	No	No
R-squared	0.001	0.001

Notes: (1) OLS-Regression with robust standard errors in parentheses. "*Easy task*" is an indicator for respondents randomly assigned to the *easy task* (treatment). (2) is the same regression but only considers dropouts after participants learned about the bonus assignment.

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Table A2. Balance between No-Dropouts and Dropouts**

<b>Variables</b>	<b>No-Dropouts (n=1825)</b>		<b>Dropouts (n = 202)</b>		<b>p-value</b>
	<b>Mean</b>	<b>S.D.</b>	<b>Mean</b>	<b>S.D.</b>	
L-o-C-Index	20.95	9.16	21.88	9.94	0.17
Age (in years)	39.17	12.41	37.65	11.66	0.09
Female (in %)	52.44	49.95	45.05	49.88	0.05
White (in %)	76.66	42.31	73.27	44.37	0.28
Married (in %)	45.21	49.78	41.58	49.41	0.33
People in Household	2.66	1.42	2.70	1.37	0.72
Full-Time Employed (in %)	61.37	48.70	67.82	46.83	0.07
Part-Time Employed (in %)	11.34	31.72	11.39	31.84	0.99
Self-Employed (in %)	11.12	31.45	8.91	28.56	0.34
Not-in-Labor-Force (in %)	9.75	29.67	5.94	23.70	0.08
Income (in \$)	64,784	42,589	62,203	40,993	0.41
Strongly Liberal (in %)	18.14	38.54	15.84	36.60	0.71
Moderately Liberal (in %)	22.30	41.64	24.75	43.26	0.43
Slightly Liberal (in %)	21.04	40.77	21.29	41.04	0.94
Slightly Conservative (in %)	20.27	40.22	19.31	39.57	0.75
Moderately Conservative (in %)	12.66	33.26	13.86	34.64	0.63
Strongly Conservative (in %)	5.59	22.98	4.95	21.75	0.38
Democrats (in %)	52.88	49.93	54.46	49.92	0.67
Republicans (in %)	28.27	45.05	25.74	43.83	0.45
No/ Other Political Party (in %)	18.85	39.12	19.80	39.95	0.74
Northeast Region (in %)	19.04	39.28	21.78	41.38	0.35
South Region (in %)	38.36	48.64	37.62	48.56	0.84
Midwest Region (in %)	20.75	40.56	18.81	39.18	0.52
West Region (in %)	21.84	41.33	21.78	41.38	0.98
Only High school Degree (in %)	8.98	28.61	7.43	26.28	0.46
Only Some College (in %)	24.27	42.89	21.29	41.04	0.35
2-Year College Degree (in %)	12.22	32.76	12.38	33.01	0.95
4-Year College Degree (in %)	38.36	48.64	37.38	45.05	0.06
Master Degree (in %)	12.22	32.76	11.39	31.84	0.73
Doctoral/ Professional Degree (in %)	3.67	18.81	1.98	13.97	0.22

Notes: The L-o-C-Index is a measure for locus of control (for details see main text or Appendix). The last column presents p-values from separate OLS regressions of the form  $y_i = \beta_0 + \beta_0 * covariate + \varepsilon_i$ , where  $y_i$  is a treatment indicator. The F-statistic from a joint significance test of all covariates is 0.83 (p-value =0.727).

**Table A3. Summary Statistics and Balance between *Easy* and *Hard* task**

Variables	All (n=1825)		Hard task (n = 907)		Easy task (n = 918)		p-value
	Mean	S.D.	Mean	S.D.	Mean	S.D.	
L-o-C-Index	20.95	9.16	21.16	9.12	20.74	9.20	0.34
Age (in years)	39.17	12.41	39.30	12.40	39.04	12.42	0.66
Female (in %)	52.44	49.95	53.14	49.91	51.74	50.00	0.55
White (in %)	76.66	42.31	75.74	42.88	77.56	41.74	0.36
Married (in %)	45.21	49.78	46.97	49.94	43.46	49.60	0.13
People in Household	2.66	1.42	2.63	1.37	2.69	1.48	0.33
Full-Time Employed (in %)	61.37	48.70	61.63	48.66	61.11	48.78	0.82
Part-Time Employed (in %)	11.34	31.72	10.80	31.06	11.87	32.37	0.47
Self-Employed (in %)	11.12	31.45	12.57	33.17	9.69	29.61	0.05
Not-in-Labor-Force (in %)	9.75	29.67	9.59	29.46	9.91	29.90	0.82
Income (in \$)	64,784	42,589	64,388	41,709	65,089	43,241	0.73
Strongly Liberal (in %)	18.14	38.54	17.64	38.14	18.63	38.95	0.58
Moderately Liberal (in %)	22.30	41.64	21.50	41.10	23.09	42.17	0.41
Slightly Liberal (in %)	21.04	40.77	21.94	41.41	20.15	40.14	0.35
Slightly Conservative (in %)	20.27	40.22	19.96	39.99	20.59	40.46	0.74
Moderately Conservative (in %)	12.66	33.26	12.90	33.54	12.42	33.00	0.76
Strongly Conservative (in %)	5.59	22.98	6.06	23.88	5.12	22.05	0.38
Democrats (in %)	52.88	49.93	52.70	49.95	53.05	49.93	0.88
Republicans (in %)	28.27	45.05	28.34	45.09	28.21	45.03	0.95
No/ Other Political Party (in %)	18.85	39.12	18.96	39.22	18.74	39.04	0.90
Northeast Region (in %)	19.04	39.28	20.40	40.32	17.65	38.14	0.13
South Region (in %)	38.36	48.64	38.04	48.57	38.56	48.70	0.82
Midwest Region (in %)	20.75	40.56	20.18	40.15	21.24	40.92	0.57
West Region (in %)	21.84	41.33	21.28	40.95	22.33	41.67	0.59
Only High school Degree (in %)	8.98	28.61	9.59	28.61	8.39	27.74	0.37
Only Some College (in %)	24.27	42.89	23.70	42.55	24.84	43.23	0.57
2-Year College Degree (in %)	12.22	32.76	12.90	33.53	11.55	31.98	0.38
4-Year College Degree (in %)	38.36	48.64	37.38	48.41	39.32	48.87	0.39
Master Degree (in %)	12.22	32.76	12.23	32.79	12.20	32.75	0.98
Doctoral/ Professional Degree (in %)	3.67	18.81	4.19	20.04	3.16	17.50	0.24

Notes: The L-o-C-Index is a measure for locus of control (for details see main text or Appendix). The last column presents p-values from separate OLS regressions of the form  $y_i = \beta_0 + \beta_0 * covariate + \varepsilon_i$ , where  $y_i$  is a treatment indicator. The F-statistic from a joint significance test of all covariates is 1.09 (p-value =0.348).

**Table A4. Comparison between Selected Experiment Demographics and U.S. Population**

Variables	Experiment	U.S. Population
Median Age (in years)	36.0	38.2
Female (in %)	52.4	50.8
White (in %)	76.7	60.4
Married (in %)	45.21	49.78
People in Household	2.66	2.52
Median Household Income (in \$)	62,500	61,937
Bachelor's degree or higher (in %)	68.7	32.6
Northeast Region (in %)	19.0	17.1
Midwest Region (in %)	20.8	20.8
West Region (in %)	21.8	23.9
South Region (in %)	38.4	38.4

Notes: The U.S. Population data was taken from the U.S. Census Bureau: Median age (2018)<sup>1</sup>, Female (2019)<sup>2</sup>, White (not Hispanic or Latino)(2018)<sup>3</sup>, Married (2018)<sup>4</sup>, People in Household (2019)<sup>5</sup>, Median Household Income (2018)<sup>6</sup>, Bachelor's degree or higher (25 years age or over)(2018)<sup>7</sup>, Region (Northeast, Midwest, West, South)(2019)<sup>8</sup>

<sup>1</sup><https://data.census.gov/cedsci/table?q=female&tid=ACSST1Y2018.S0101&vintage=2018&hidePreview=true> (03.04.2020)

<sup>2</sup> <https://www.census.gov/quickfacts/fact/table/US/LFE046218> (03.04.2020)

<sup>3</sup> <https://www.census.gov/quickfacts/fact/table/US/LFE046218> (03.04.2020)

<sup>4</sup><https://data.census.gov/cedsci/table?q=S1201%3A%20MARITAL%20STATUS&tid=ACSST1Y2018.S1201&vintage=2018&hidePreview=true> (03.04.2020)

<sup>5</sup> <https://www.statista.com/statistics/183648/average-size-of-households-in-the-us/> (03.04.2020)

<sup>6</sup><https://data.census.gov/cedsci/table?q=median%20income&tid=ACSST1Y2018.S1903&t=Income%20%28Households.%20Families.%20Individuals%29&hidePreview=true&vintage=2018> (03.04.2020)

<sup>7</sup> <https://data.census.gov/cedsci/table?q=education&tid=ACSST1Y2018.S1501&t=Education&vintage=2018&hidePreview=true> (03.04.2020)

<sup>8</sup> [https://www.census.gov/popclock/data\\_tables.php?component=growth](https://www.census.gov/popclock/data_tables.php?component=growth) (03.04.2020)

#### **A5.IV-Estimates: Effect of the treatment on the treated**

We identify the causal impact of economic success on meritocratic beliefs and redistributive taxes through the random assignment of participants to the *easy* and *hard task*. Recall that we calibrated the two tasks such that completing the *easy task* results in a better performance than completing the *hard task*. Consequently, economic success should coincide with the random task assignment.

Because treatment compliance was imperfect, we reported the *intention-to-treat (ITT)* effects in the paper. In the following we present the effects of treatment on treated (i.e. the effect of receiving the bonus – economic success – on meritocratic beliefs and redistributive taxes) by using our random assignment to the two tasks as an instrument. In specifications that include an interaction term between economic success and political view, we also instrument the interaction term with the interaction between task assignment and political view. Non-compliance was about 6 percent and the magnitude of the ITT estimates reported in the paper is similar to the IV estimates presented here.

**Table A5. IV-Regression: Change in Beliefs (Posterior - Prior)**

Dep. Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	$\Delta$ - Belief	Task Difficulty	$\Delta$ -Belief	Deserving Bonus	$\Delta$ - Belief	Relative Performance	$\Delta$ - Belief	Relative Performance	Effort	Determines Success	Effort	Determines Success
Economic Success	-1.579 (1.049)	-0.788 (1.539)	-0.832 (1.533)	12.31*** (0.983)	12.80*** (1.648)	12.47*** (1.637)	11.61*** (0.793)	9.610*** (1.277)	9.394*** (1.282)	18.23*** (1.509)	18.34*** (2.369)	18.42*** (2.364)
Liberal		-0.195 (1.435)	0.0623 (1.451)		0.652 (1.585)	0.297 (1.577)		-1.096 (1.127)	-1.057 (1.140)		-3.918* (2.294)	-3.965* (2.315)
Liberal x Economic Success		-1.277 (2.086)	-1.147 (2.090)		-0.813 (2.049)	-0.570 (2.045)		3.250** (1.630)	3.485** (1.640)		-0.120 (3.067)	0.285 (3.054)
Constant	3.629*** (0.727)	3.747*** (1.042)	-12.76* (7.400)	-6.517*** (0.753)	-6.915*** (1.295)	-8.479 (6.987)	-4.888*** (0.559)	-4.219*** (0.855)	-0.923 (5.728)	53.01*** (1.127)	55.40*** (1.774)	40.59*** (10.37)
F-statistic first stage	6891.64	7645.23	7645.23	6891.64	7645.23	7645.23	6891.64	7645.23	7645.23	6891.64	7645.23	7645.23
Observations	1,825	1,825	1,822	1,825	1,825	1,822	1,825	1,825	1,822	1,825	1,825	1,822
Controls	No	No	Yes	No	No	Yes	No	No	Yes	No	No	Yes
R-squared	0.002	0.003	0.011	0.095	0.095	0.100	0.122	0.120	0.128	0.089	0.093	0.107

Notes: Two-stage least squares (2SLS) regression with robust standard errors in parentheses. "Economic Success" is an indicator for the bonus payment and is instrumented by "Easy task" an indicator for respondents being randomly assigned to the *easy task* (treatment). " $\Delta$ " is the difference between the posterior and the prior belief. The beliefs are elicited before the bonus assignment (prior) and after the bonus assignment (posterior). All beliefs are measured on a scale from 0 – 100: "Prior Belief, Task Difficulty"; likelihood of performing in the *hard task* in %; "Prior Belief, Deserving Bonus": deserving the \$2-bonus payment in %; "Prior Belief, Relative Performance": perceived number of participants performing the same task with a lower score; "Effort Determines Success": likelihood that the \$2-bonus payment depends on her exerted effort in %. "Liberal" is an indicator for respondents who self-identified as strongly liberal, moderately liberal and slightly liberal. Controls include sex, age, household size, log income and dummy variables indicating white/European-American ethnicity, college degree, working, married and U.S.-regions (North, East, South, Midwest, West). In columns (1), (4), (7) and (10) we report the F-statistic of "Economic Success" instrumented by "Easy task"; in columns (2), (3), (5), (6), (8), (9), (11) and (12) we report the F-Statistics of "Liberal x Economic Success" instrumented by "Liberal x Easy task"

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

# indicates significance, when using the adaptive linear step-up procedure by (Benjamini, Krieger, and Yekutieli 2006) that controls for a false discovery rate at  $q=0.05$  for the treatment variable "Easy task"

**Table A6. IV-Regression: Tax Rate and Beliefs**

Dep. Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)
				Tax Rate			
Economic Success	-44.47*** (1.652)	-44.41*** (1.657)	-29.32*** (4.098)	-7.670 (5.202)	-17.06*** (4.279)	5.173 (6.059)	-50.05*** (4.185)
Prior Belief, Task Difficulty			0.217*** (0.0489)			0.152***/# (0.0490)	
Economic Success x Prior Belief, Task Difficulty			-0.219*** (0.0647)			-0.121* (0.0643)	
Prior Belief, Deserving Bonus				0.273*** (0.0425)		0.147***/# (0.0543)	
Economic Success x Prior Belief, Deserving bonus				-0.499*** (0.0653)		-0.334***/# (0.0797)	
Prior Belief, Relative Performance					0.345*** (0.0508)	0.205***/# (0.0655)	
Economic Success x Prior Belief, Relative Performance					-0.521***	-0.294***/#	
Effort Determines Success					(0.0717)	(0.0878)	
Economic Success x Effort Determines Success							-0.174*** (0.0400)
Constant	62.71*** (1.268)	70.99*** (11.49)	56.47*** (11.70)	49.03*** (11.52)	52.99*** (11.54)	38.19*** (11.68)	79.06*** (11.65)
F-statistic first stage	6891.64	6891.64	3418.65	7027.15	6461.62	3418.65	7580.40
Observations	1,825	1,822	1,822	1,822	1,822	1,822	1,822
Controls	No	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.318	0.323	0.334	0.357	0.355	0.371	0.335

Notes: Two-stage least squares (2SLS) regression with robust standard errors in parentheses. "Economic Success" is an indicator for the bonus payment and is instrumented by "Easy task", an indicator for respondents being randomly assigned to the *easy task* (treatment). "Δ" is the difference between the posterior and the prior belief. The beliefs are elicited before the bonus assignment (prior) and after the bonus assignment (posterior). All beliefs are measured on a scale from 0 – 100: "Prior Belief, Task Difficulty": likelihood of performing in the *hard task* in %; "Prior Belief, Deserving Bonus": deserving the \$2-bonus payment in %; "Prior Belief, Relative Performance": perceived number of participants performing the same task with a lower score; "Effort Determines Success": likelihood that the \$2-bonus payment depends on her exerted effort in %. "Liberal" is an indicator for respondents who self-identified as strongly liberal, moderately liberal and slightly liberal. Controls include sex, age, household size, log income and dummy variables indicating white/European-American ethnicity, college degree, working, married and U.S.-regions (North, East, South, Midwest, West). In columns (1), (4), (7) and (10) we report the F-statistic of "Economic Success" instrumented by "Easy task"; in columns (2), (3), (5), (6), (8), (9), (11) and (12) we report the F-Statistics of "Liberal x Economic Success" instrumented by "Liberal x Easy task"

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

# indicates significance, when using the adaptive linear step-up procedure by (Benjamini, Krieger, and Yekutieli 2006) that controls for a false discovery rate at q=0.05 for the treatment variable in column (6)

**Table A7. IV-Regression: Tax Rate and Political Views**

Dep. Variable	(1)	(2)	(3)	(4)
			Tax Rate	
Liberal	5.540*** (1.490)	5.425*** (1.543)	8.064*** (2.597)	8.169*** (2.612)
Economic Success	-44.52*** (1.645)	-44.45*** (1.651)	-41.44*** (2.581)	-41.08*** (2.604)
Liberal x Economic Success			-5.016 (3.347)	-5.492 (3.366)
Constant	59.33*** (1.570)	66.23*** (11.52)	57.79*** (2.042)	64.97*** (11.54)
F-statistic first stage	6891.64	6891.64	7645.23	7645.23
Observations	1,825	1,822	1,825	1,822
Controls	No	Yes	No	Yes
R-squared	0.323	0.328	0.323	0.328

Notes: Two-stage least squares (2SLS) regression with robust standard errors in parentheses. "Tax Rate" is the redistribution rate of the \$2-bonus payment in percent (0-100 percent). "Liberal" is an indicator for respondents who self-identified as strongly liberal, moderately liberal and slightly liberal. "Economic Success" is an indicator for the bonus payment and is instrumented by "Easy task" an indicator for respondents being randomly assigned to the *easy task* (treatment). Controls include sex, age, household size, log income and dummy variables indicating white/European-American ethnicity, college degree, working, married and U.S.-regions (North, East, South, Midwest, West). In columns (1) and (2) we report the F-statistic of "Economic Success" instrumented by "Easy task"; in columns (3) and (4) we report the F-Statistics of "Liberal x Economic Success" instrumented by "Liberal x Easy task".

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

## A6.Locus-of-Control: Estimates

**Table A8. Regression: Locus of Control Index on Liberal**

Dep. Variables	(1)	L-o-C-Index	(2)
Liberal	1.308*** (0.438)		1.084** (0.443)
Constant	20.145*** (0.341)		49.977*** (3.370)
Observations	1,825		1,822
Controls	No		Yes
R-squared	0.005		0.073

Notes: OLS-Regression with robust standard errors in parentheses. "L-o-C-Index" is bounded between 7 (internal) and 49 (external). "Liberal" is an indicator for respondents who self-identified as strongly liberal, moderately liberal and slightly liberal. Controls include sex, age, household size, log income and dummy variables indicating white/European-American ethnicity, college degree, working, married and U.S.-regions (North, East, South, Midwest, West).

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Table A9. Regression: Tax Rate and Locus-of-Control Index**

Dep. Variable	(1)	(2)	(3)	(4)
			Tax Rate	
L-o-C-Index	0.060 (0.084)	0.061 (0.087)	-0.035 (0.139)	-0.033 (0.141)
<i>Easy task</i>	-39.518*** (1.521)	-39.416*** (1.531)	-43.455*** (3.884)	-43.330*** (3.888)
L-o-C-Index x <i>Easy task</i>			0.188 (0.170)	0.187 (0.170)
Constant	58.889*** (2.202)	68.990*** (12.242)	60.906*** (3.244)	70.322*** (12.350)
Observations	1,825	1,822	1,825	1,822
Controls	No	Yes	No	Yes
R-squared	0.277	0.272	0.273	0.277

Notes: OLS-Regression with robust standard errors in parentheses. "Tax Rate" is the redistribution rate of the \$2-bonus payment in percent (0-100 percent). "L-o-C-Index" is bounded between 7 (internal) and 49 (external). "*Easy task*" is an indicator for respondents randomly assigned to the *easy task* (treatment). Controls include sex, age, household size, log income and dummy variables indicating white/European-American ethnicity, college degree, working, married and U.S.-regions.

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Table A10. Regression: Change in Beliefs (Posterior – Prior) and Locus-of-Control Index**

Dep. Variable	(1) Δ - Belief Task Difficulty	(2) Task Difficulty	(3) Δ-Belief Deserving Bonus	(4) Deserving Bonus	(5) Δ - Belief Relative Performance	(6) Relative Performance	(7) Effort Determines Success	(8) Success
L-o-C-Index	-0.046 (0.075)	-0.032 (0.076)	0.086 (0.078)	0.076 (0.079)	-0.122* (0.067)	-0.121* (0.0694)	-0.289** (0.121)	-0.260** (0.123)
<i>Easy task</i>	-0.457 (2.311)	-0.813 (2.320)	10.261*** (2.198)	10.152*** (2.179)	6.661*** (1.838)	6.701*** (1.839)	16.866*** (3.489)	16.681*** (3.492)
L-o-C-Index x <i>Easy task</i>	-0.047 (0.105)	-0.028 (0.104)	0.0346 (0.098)	0.0316 (0.098)	0.174** (0.084)	0.169** (0.085)	-0.037 (0.154)	-0.015 (0.155)
Constant	4.515*** (1.644)	-10.782 (7.905)	-7.622*** (1.789)	-13.112* (7.695)	-1.651 (1.435)	1.632 (6.657)	60.165*** (2.799)	50.286*** (11.016)
Observations	1,825	1,822	1,825	1,822	1,825	1,822	1,825	1,822
Controls	No	Yes	No	Yes	No	Yes	No	Yes
R-squared	0.002	0.010	0.080	0.086	0.106	0.113	0.082	0.093

Notes: OLS-Regression with robust standard errors in parentheses. “Δ” is the difference between posterior and prior beliefs. The beliefs are elicited before the bonus assignment (prior) and after the bonus assignment (posterior). All beliefs are measured on a scale from 0 – 100: “Belief Task Difficulty”: likelihood of performing in the *hard task* in %; “Belief Deserving Bonus”: deserving the \$2-bonus payment in %; “Belief Relative Performance”: perceived number of participants performing the same task with a lower score; “Effort Determines Success”: likelihood that the \$2-bonus payment depends on her exerted effort in %. “*Easy task*” is an indicator for random assignment to the *easy task*. “Liberal” is an indicator for respondents who self-identified as strongly liberal, moderately liberal and slightly liberal. Controls include sex, age, household size, log income and a set of indicator variables for white/European-American ethnicity, college degree, working, married and U.S.-regions (North, East, South, Midwest, West).

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Table A11. Regression: Willingness to Pay and Locus-of-Control Index**

Dep. Variable	(1)	(2)	(3)	(4)	(5)	(6)
	WTP		Revised Tax Rate			
L-o-C-Index	0.022 (0.042)	0.045 (0.043)	-0.103 (0.176)	-0.063 (0.178)	-0.176 (0.242)	-0.114 (0.248)
<i>Easy task</i>	-0.801 (1.281)	-0.916 (1.268)	-49.037*** (4.924)	-48.991*** (4.949)	-51.08*** (6.468)	-50.594*** (6.524)
L-o-C-Index x <i>Easy task</i>	-0.009 (0.057)	-0.008 (0.056)	0.381* (0.219)	0.382* (0.220)	0.493* (0.294)	0.476 (0.296)
Receive Info					2.321 (8.112)	3.365 (8.123)
L-o-C- Index x Receive Info					0.115 (0.352)	0.0560 (0.354)
Receive Info x <i>Easy task</i>					6.227 (10.02)	5.291 (10.02)
L-o-C-Index x Receive Info x <i>Easy task</i>					-0.266 (0.443)	-0.234 (0.442)
Constant	6.911*** (0.971)	-3.034 (4.173)	65.819*** (4.039)	59.377*** (16.721)	65.135*** (5.416)	60.008*** (17.260)
Observations	1,776	1,773	1,130	1,128	1,130	1,128
Controls	No	Yes	No	Yes	No	Yes
R-squared			0.284	0.295	0.289	0.299

Notes: (1) - (2) is an Interval-Regression and (3) - (6) an OLS-Regression, robust standard errors in parentheses. "WTP" is the willingness to pay for seeing information about the task difficulty and score of the other participant or receiving extra money. The variable is categorized in 9 intervals [0¢,1¢]; [1¢,3¢]; [3¢,5¢]; [5¢,7¢]; [7¢,10¢]; [10¢,20¢]; [20¢,35¢]; [35¢,50¢]; [50¢,inf]. We dropped 49 participants with multiple switching points, since they could not be assigned to a category. "Revised Tax Rate" is the redistribution rate of the \$2-bonus payment in percent (0-100 percent) after participants decide to receive or not receive additional information about their assigned treatment. All participants who received the information and half of the participants who did not receive the additional information could revise their previous tax rate. "L-o-C-Index" is bounded between 7 (internal) and 49 (external). "*Easy task*" is an indicator for respondents randomly assigned to the *easy task* (treatment). "Receive Info" indicates a dummy variable for having received information about the task difficulty and the performance of the other participant. Controls include sex, age, household size, log income and dummy variables indicating white/European-American ethnicity, college degree, working, married and U.S.-regions (North, East, South, Midwest, West).

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

## A7.Screenshots of Survey and Experimental Tasks

### Bot Control-Question

Before we start, please answer the following question. Note that we are only able to approve submissions that answered this question correctly. All other submissions will be rejected. Please indicate the sum of two plus seven in the box below. You can proceed if your entry is correct.

Next

### End of Experiment (if Bot Control-Question wrong)

#### End of Experiment

You did not correctly answer the control question and can therefore not proceed.

### General Instructions

#### General Instructions

You will now take part in an academic research project from Heidelberg University. Your responses and decisions in this study help us to contribute to our knowledge as a society.

It is very important for the success of our research that you **answer honestly** and **read the questions very carefully** before answering. Anytime you don't know an answer, just give your best guess. It is also very important for the success of our research project that you **complete the entire study**, once you have started. This study should take (on average) less than 12 minutes to complete.

*Your participation in this study is entirely voluntary and you will remain anonymous throughout the study. Results may include summary data, but you will never be identified. By continuing, you consent to the publication of study results.*

For completing this study, you will receive a **fixed payment of \$0.75**. You also have the chance to **earn additional payments** during the study, depending on your decisions and the decision of a random device. Any additional payments will be distributed as a bonus payment within three days upon **completion of the study**. If you have any question regarding this study, you may contact [socialsciencesurvey2019@gmail.com](mailto:socialsciencesurvey2019@gmail.com).

Next

## Locus-of-Control Questionnaire

### Questionnaire

The following statements apply to different attitudes towards life and the future. To what degree do you personally agree with the following statements.

	Disagree strongly	Disagree moderately	Disagree a little	Neither agree nor Disagree	Agree a little	Agree moderately	Agree strongly
I have little control over the things that happen to me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
There is really no way I can solve some of the problems I have.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
There is little I can do to change many of the important things in my life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often feel helpless in dealing with the problems of life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sometimes I feel that I'm being pushed around in life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
What happens to me in the future mostly depends on me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can do just about anything I really set my mind to do.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

[Next](#)

## Demographic Questionnaire

### Questionnaire

Please select your gender.

- Male
- Female
- Other
- I prefer not to say.

Please enter your age.

Please indicate your marital status.

- Single
- Married

How many persons live in your household (including you)?

What is the highest level of education you have completed?

- Not completed high school
- High school
- Some college
- 2-year college degree
- 4-year college degree
- Masters degree
- Doctoral degree
- Professional degree (JD, MD)

What is your current employment status?

- Full-time employee
- Part-time employee
- Self-employed or small business owner
- Unemployed and looking for work
- Student
- Not in labor force (for example: retired, full-time parent)

What was your TOTAL household income, before taxes, last year (2018)?

- \$0 - \$9,999
- \$10,000 - \$14,999
- \$15,000 - \$19,999
- \$20,000 - \$29,999
- \$30,000 - \$39,999
- \$40,000 - \$49,999
- \$50,000 - \$74,999
- \$75,000 - \$99,999
- \$100,000 - \$124,999
- \$125,000 - \$149,999
- \$150,000 - \$199,999
- \$200,000 and more

What is your ethnicity?	<ul style="list-style-type: none"><li><input type="radio"/> White/European-American</li><li><input type="radio"/> Black/African-American</li><li><input type="radio"/> Asian/Asian-American/Pacific Islander</li><li><input type="radio"/> Hispanic/Latino</li><li><input type="radio"/> Other</li></ul>
On a continuum from liberal to conservative, how would you describe your political beliefs?	<ul style="list-style-type: none"><li><input type="radio"/> Strongly liberal</li><li><input type="radio"/> Moderately liberal</li><li><input type="radio"/> Slightly liberal</li><li><input type="radio"/> Slightly conservative</li><li><input type="radio"/> Moderately conservative</li><li><input type="radio"/> Strongly conservative</li></ul>
Which of the following political parties do you identify with most?	<ul style="list-style-type: none"><li><input type="radio"/> Democratic Party</li><li><input type="radio"/> Republican Party</li><li><input type="radio"/> Other</li></ul>
Do you live in the United States?	<ul style="list-style-type: none"><li><input type="radio"/> Yes</li><li><input type="radio"/> No</li></ul>
In which state do you live?	<input type="text" value="-----"/>
<input type="button" value="Next"/>	

## Description Real Effort Task

### Description of the assignment

We now ask you to work on a code-entry task for **3 minutes**. You will see a series of randomly selected **upper- and lower-case** letters and you are asked to retype as many sequences of letters as possible. Note that sequences are case-sensitive. You can generate as many sequences as you want by clicking "Next" (or pressing the Enter key). Each correctly retyped sequence scores 1 point and each incorrectly retyped sequence scores 0 points.

There is an easy version (shorter sequences) and a hard version of the task (longer sequences). You will be randomly assigned either to the **easy version of the task** (50 percent chance) or to the **hard version of the task** (50 percent chance) and you will be paid according to your performance as explained on the next page.

[Next](#)

## Description Experiment Payment

### Payment of assignment

The computer will compare your score in the code-entry task with the code-entry score of another participant in this study. If you worked on the easy task then the other participant worked on the hard task and if you worked on the hard task, the other participant worked on the easy task.

If your score is higher than the score of this other participant, you will get a bonus of \$2. If your score is lower, you will get a bonus of \$0.

If you are ready, please click "Next" below to start the code-entry task.

[Next](#)

## Hard Real Effort Task

### Tasks

Time left to complete this page: 2:58

Task: 1 - Correct: 0

vkIRpsXxelszKv

Enter the code you see in the picture above:

[enter](#)

## Easy Real Effort Task

### Tasks

Time left to complete this page: 2:49

Task: 2 - Correct: 1

URwsU

Enter the code you see in the picture above:

[enter](#)

## Information Real Effort Task Finished

**Finished Task**

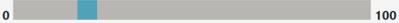
You have finished the task, please click **Next** to continue.

**Next**

## Prior-Belief about Task Difficulty

**Task Difficulty**

There was a 50 percent chance that you completed the *easy task* and 50 percent chance that you completed the *hard task*.  
Now that you completed the task, what do you think, how likely is it that you have performed the *hard task*?  
Please click on the slider bar to activate and move the slider.

0  100

Likelihood, that you performed in the *hard task* in %: **19**

**Next**

## Prior- Belief about Deserving the Bonus

**Assessment**

**Your score was: 1**

Given your score in the task, how much would you deserve the \$2-bonus payment?  
Please click on the slider bar to activate and move the slider.

0  100

You deserve the \$2-bonus payment in %: **60**

**Next**

## Prior-Belief about Relative Performance

**Performance Comparison**

Suppose you compare your score to the score of 100 other participants who completed the **same task** as you. What do you think, how many of them have a *lower* score than you?  
Please click on the slider bar to activate and move the slider.

0  100

Number of participants who have a *lower* score than you: **70**

**Next**

## Instructions about Matching Mechanism

**Instructions**

You will now be matched with another participant in the study. During this process, it is possible that you have to wait for a matching partner. If that is the case, please do not switch to another HIT/tab, since the experiment will proceed immediately after matching. If you do not respond after being matched, **you will run into a timeout**, in which case the HIT will be counted as incomplete and **you will not receive any payment**.

If there is no other participant available after a certain time limit, you can finish the experiment earlier. In that case, you will only receive the participation fee of \$0.75.

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## Waiting Room

Please wait!

**00:16**

Waiting for more participants ...

You can finish the study if nobody arrives in: **2:44**



## Information about Bonus Assignment (Bonus)

**Bonus payment**

The computer has matched you to another person completing this study and compared the code-entry scores.

Your score was **higher** than the score of the other participant. **Your bonus is \$2.00.**

[Next](#)

## Information about Bonus Assignment (No Bonus)

**Bonus payment**

The computer has matched you to another person completing this study and compared the code-entry scores.

Your score was **lower** than the score of the other participant. **Your bonus is \$0.00.**

[Next](#)

## Information about Bonus Assignment (Bonus shared if equal performance)

**Bonus payment**

The computer has matched you to another person completing this study and compared the code-entry scores.

Your total score was equal the total score of your partner.  
Therefore, the total bonus of \$2 will be equally split between both of you.

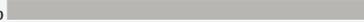
[Next](#)

## Posterior-Belief about Task Difficulty

**Task Difficulty**

Again, what do you think, how likely is it that you have performed the hard task?

Please click on the slider bar to activate and move the slider.

0  100

Likelihood, that you performed in the *hard task* in %:

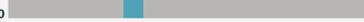
[Next](#)

## Posterior-Belief about Deserving the Bonus

**Assessment**

Again, given your score in the task, how much would you deserve the \$2-bonus payment?

Please click on the slider bar to activate and move the slider.

0  100

You deserve the \$2-bonus payment in %: **34**

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## Posterior-Belief about Relative Performance

**Performance Comparison**

Again, suppose you compare your score to the score of 100 other participants who completed the **same task** as you. What do you think, how many of them have a *lower* score than you?

Please click on the slider bar to activate and move the slider.

0  100

Number of participants who have a *lower* score than you:

[Next](#)

## Belief about Bonus Depending on Effort

**Luck or Effort?**

What do you think, does the payment of the \$2 bonus mostly depend on luck or exerted effort?

Please click on the slider bar to activate and move the slider.

0  100

Likelihood, that the \$2-bonus payment depends on *exerted effort* in %:

[Next](#)

## Information about Redistribution Mechanism

### Redistribution

The bonus payment from the code-entry task is subject to an income tax. We will now ask you to determine this tax rate. The tax will be deducted from your bonus **and** the other participant's bonus and the resulting **tax revenue will be equally distributed between the two of you.**

Here is an example: *Suppose you received a bonus payment of \$2 and the other participant a bonus payment of \$0 and suppose you set the tax rate to 50%. Then the computer deduct  $2 \times 50\% = \$1$  from your bonus. The tax revenue in this case is \$1, which will be evenly redistributed to you and the other participant (i.e., each of you will receive \$0.5). Your bonus payment after taxes is then  $\$1 + \$0.5 = \$1.5$  and the other participant's bonus payment after taxes is  $\$0 + \$0.5 = \$0.5$ .*

On the decision screen you can see your proposed tax rate and the resulting tax revenue as well as your and the other participants bonus payment after taxes.

Note that the other participant makes exactly the same decision. The computer will then randomly pick **your tax proposal or the other participants'** tax proposal and will implement it accordingly.

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## Redistribution First Time

### Redistribution

Please use the slider below to determine the tax rate. By moving the slider, you can immediately see the possible monetary consequences of your tax proposal. To save your decision, click "Next".

Your decision

0%  100%

Tax Rate (%): **46**

Tax revenue in \$: **0.92**

Your Income in \$ (after Tax): **0.46**

Income of the other participant in \$ (after Tax): **1.54**

[Next](#)

## Information about Price List to Receive additional Information about Partner

### Instructions

You now have the possibility to learn about

- the **level of difficulty of your task** and **the task of the other person** you were matched with,
- and **the score** of the other participant.

You will next be presented with 8 scenarios. In each scenario, you will be given the choice of either seeing the **information outlined above** OR **receiving extra money**. The amount of money that you will be offered in these scenarios is predetermined and ranges from \$0.01 to \$0.50. For instance, in Scenario 1, you will need to choose between seeing information or receiving \$0.01; and in Scenario 8, you will need to choose between seeing information or receiving \$0.50.

We will draw one of these 8 scenarios at random for you. **Your choice in the randomly chosen scenario will then be implemented.** That is, you will have to make 8 choices, but only one of those choices will be implemented.

Since **one scenario will be picked at random**, your choices will not affect which scenario will be chosen.

[Next](#)

## Price List to Receive additional Information about Partner

### Scenarios

You will now be asked to make a decision for each of the **8 scenarios**.

*Note: One of the 8 scenarios is randomly chosen for you, and your choice in this scenario will be implemented. If you choose the information, you will see it on the next page. Instead, if you choose the money, you will receive the money on top of your other earnings.*

#### Scenario 1:

Would you like to see information about your relative performance OR receive \$0.01?

see Information  receive \$ 0.01

#### Scenario 2:

Would you like to see information about your relative performance OR receive \$0.03?

see Information  receive \$ 0.03

#### Scenario 3:

Would you like to see information about your relative performance OR receive \$0.05?

see Information  receive \$ 0.05

#### Scenario 4:

Would you like to see information about your relative performance OR receive \$0.07?

see Information  receive \$ 0.07

#### Scenario 5:

Would you like to see information about your relative performance OR receive \$0.10?

see Information  receive \$ 0.10

#### Scenario 6:

Would you like to see information about your relative performance OR receive \$0.20?

see Information  receive \$ 0.20

#### Scenario 7:

Would you like to see information about your relative performance OR receive \$0.35?

see Information  receive \$ 0.35

#### Scenario 8:

Would you like to see information about your relative performance OR receive \$0.50?

see Information  receive \$ 0.50

Next

## Result of Price List Decisions (see Information)

### Result

Time left to complete this page: 0:04

Scenario 2 was picked at random for you.

You had chosen to receive information about the assignment.

- i. you completed the **hard code-entry task** (i.e., retyping sequences of 15 upper- and lower-case letters) and the other person completed the **easy code-entry task** (i.e., retyping sequences of 5 upper- and lower-case letters),
- ii. and the score of the other participant in the *easy code-entry task* was 2. (Your score was: 0)

Next

## Result of Price List Decisions (receive Money)

### Result

Scenario 5 was picked at random for you.

You had chosen to receive \$0.10.

Next

## Redistribution Second Time

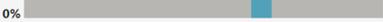
### Redistribution

You now have a non-recurring chance to revise your proposal.

Your earlier proposal was 83%.

If you do not want to revise your earlier proposal, move the slider to 83%, if you want to revise your earlier proposal move the slider to a different position.

Your decision

0%  100%

Tax Rate (%): **67**

Tax revenue in \$: **1.34**

Your Income in \$ (after Tax): **1.33**

Income of the other participant in \$ (after Tax): **0.67**

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## Payment Summary

### Summary

You have finished the study. Thank you very much for your participation.

Your payment:

Fixed payment for study completion: \$0.75.

Additional payments:

**Assignment:**  
The computer has chosen your tax proposal for implementation.  
The tax rate is 67%.  
Your bonus payment after taxes is \$1.33.

**Scenarios:**  
You received \$0.10 because you opted for the money instead of seeing information on the task difficulty.

Total payment:

Your total payment is \$2.18.

Note that you will receive the fixed payment and the additional payments as a bonus payment within three days.

**Please click "Finish" to end the study**

[Finish](#)

## Information if Participants run into Timeout

Unfortunately, you did not finish the HIT in time. Therefore this HIT is incomplete and you will not receive any payment.

If you have any question regarding this study, you may contact [socialsciencesurvey2019@gmail.com](mailto:socialsciencesurvey2019@gmail.com).

Please click "Finish" to end the study.

[Finish](#)