Working for Others - or Not

An Experimental Analysis of Effort Provision in Redistributive Systems

William Hickman[*] Johanna Mollerstrom[†]

November 1, 2024

Abstract

We investigate how effort provision changes when a portion of labor earnings is withheld and redistributed to others. Across three online experiments with 1,600 participants, we find that people work less when taxed or when earnings are redirected to benefit various organizations, even when personal earnings are held constant, reflecting a general aversion to working for others. This response persists, though weakens slightly, even when participants favor the beneficiaries. Allowing participants to choose the beneficiary does little to reduce this aversion, but giving them the option to work solely for themselves or for a chosen beneficiary mitigates the negative effect. Our findings suggest that decreasing the salience of taxes and enhancing taxpayer autonomy may increase the efficiency of redistributive systems.

Keywords: Labor, taxation, charity, public goods

JEL Codes: H20, H31, J22, C90

[*]George Mason University, Arlington, VA, USA.

[†]George Mason University, Arlington, VA, USA, and the Research Institute of Industrial Economics (IFN), Stockholm, Sweden

Special thanks to our colleagues at the Interdisciplinary Center for Economic Science, conference participants at the 2023 ESA North American Meeting, and conference participants at the 2024 ESA North American Meeting for their helpful comments and suggestions which have greatly improved this paper. This work received support from the Institute for Humane Studies under grant no. IHS017324.

1 Introduction

How do people react when a portion of their earnings benefits others? While public goods and charitable causes are valued, the notion of "working for others" may impact people's willingness to work. This tension, central to debates on taxation and redistribution, raises a fundamental question: under what conditions do people reduce their willingness to work when their labor benefits others, even when their own net wages are held constant?

In this paper, we use a series of 3 experiments to study whether and why people work less when a portion of their income benefits others. We find that people do indeed work less when a portion of their earnings benefits others — even when we hold their own net wages constant. This gives evidence for a general aversion to "working for others" that standard economic models do not fully capture.

We additionally explore whether opinions about the beneficiaries and providing autonomy to workers can mitigate the negative impact of working for others on effort provision. Positive opinions of the beneficiaries of redistribution diminish the negative response, but do not mitigate it. Giving workers the ability to choose the beneficiary also does not mitigate the response. However, giving workers the freedom to either earn money only for themselves or to also earn extra money for a chosen beneficiary entirely mitigates the negative response. Overall, we find that working for others decreases effort provision when no choice is involved, but that workers value having autonomy in the decision about whether or not to work for others.

Standard economic theory predicts that self-interested people supply labor solely based on their own after-tax wage. Thus, in this model, a portion of labor earnings going to others often leads to decreased willingness to work if it decreases one's earnings. As more earnings go to others, one's take-home wages correspondingly decrease, and the willingness to work may decrease as a result. At the same time, according to standard economic theory, effort provision should not differ between this system of taxation and a system with no taxes but where individuals receive the same net wage as those who are taxed. Even when

individuals personally value tax-funded benefits, the impact of their contributions on their own consumption of these benefits is negligible and should not impact their willingness to work in a meaningful way.

In contrast with standard economic theory, a large body of economic research suggests that people care about the outcomes of others. Thus, people often behave in ways that contradict standard economic models. Behavior that is, to some extent, driven by social motivations (e.g. placing some weight on the effect of one's own tax revenue on others) may play a role in determining how much people choose to work. Additionally, autonomy, or the perception of having control over one's actions and outcomes, may also play a critical role in shaping how individuals respond to working for others. Psychological and economic research has long shown that people place intrinsic value on having agency, even when the outcomes of their choices are not materially different from those that would be imposed upon them. In the context of effort provision, the ability to choose how one's earnings are allocated—whether they go entirely to oneself or are shared with others—could impact the effects of redistribution on effort provision. When individuals perceive that they have a choice in whether or not to work for others, they may feel less resentment or frustration about sharing the fruits of their labor, leading them to provide more effort than if they did not have a choice in the matter. Understanding the conditions under which people change their effort provision in response to working for others is an important step in designing effective institutions for the provision of public goods.

In an effort to better understand whether and why people work less when a portion of their labor income goes to others, we design and implement three online experiments with a total of 1,600 participants. Across the three experiments, we examine the role working for others plays in determining effort provision under different conditions. In each of the three experiments, participants complete a real-effort task (a simple encoding task). In the treatment groups, a portion of earnings is withheld and donated to a particular beneficiary organization. In a control group, participants earn the same net wage as participants in the

treatment groups, but keep all earnings and there is no mention of withheld earnings. Before beginning the real-effort task, participants make an explicit choice about how long they want to work. We use this choice, along with efficiency while working, to measure effort provision. We find that while there is a strong aversion to working for others in the absence of choice, giving individuals control over their labor decisions can significantly alter these patterns.

In Study 1, some participants work solely for themselves while others have part of their earnings withheld for redistribution to the U.S. government, a political party, or a politically-oriented charity. This study is designed to capture the baseline effort provision response to different forms of redistribution, and we show that there is a significant decline in effort provision when working for others. This negative response occurs regardless of whether the redistribution takes the form of taxes or charitable donations, and cannot be explained by confusion about gross and net wages or differences in the total value of each task between the control and treatment groups. Increasingly positive opinions of the beneficiaries only weakly moderate this response, giving further evidence of a general aversion to working for others that is not dependent on the specific beneficiary.

Building on these initial findings, Study 2 explores whether introducing choice alters the dynamics. Here, we include treatments where participants are given the ability to choose the political party that benefits from the withheld earnings, or also given the freedom to choose between working solely for themselves or for both themselves and the political party of their choice. The aim is to test whether giving people some degree of autonomy over the beneficiary mitigates the negative response to working for others. We find that simply giving participants the ability to choose the beneficiary does not reduce the negative response. However, when participants have the freedom to choose whether or not to work for others at all, the reduced willingness to work is entirely mitigated. Since net wages are constant regardless of the choice participants make, differences in wages cannot explain the impact of freedom of choice on effort provision. Therefore, we find that participants value the freedom to choose to work only for themselves for its own sake and express this valuation in their

effort provision. This provides evidence that the general aversion to working for others we find in Study 1 is, to some extent, due to the lack of agency given to the participants. Our findings from Study 2 suggest that increasing workers' perceived autonomy over how their earnings are used may play a role in diminishing any potential negative responses to working for others.

However, the possibility remains that a general distrust of politically-oriented organizations (such as the beneficiaries in studies 1 and 2) drives our results. To address this concern and to test the robustness of our findings from studies 1 and 2, we use several highly regarded charities as the potential beneficiaries in Study 3. Participants in the treatment groups first rank the list of potential charities from the one they personally trust the most to the one they personally trust the least. Then, we either assign participants to earn money for their most trusted charity (with no direct choice involved), assign participants to choose which charity they would like to earn money for (but require them to earn money for a charity), or assign participants to choose whether they would like to earn money for a charity of their choice or only for themselves. By including elements of the designs of studies 1 and 2, but with highly trusted charities as the beneficiaries, we rule out the possibility that a general distrust of politically-oriented organizations plays a significant role in generating the diminished willingness to work we find in studies 1 and 2. Even with the highly regarded charities as beneficiaries, the negative response persists in all conditions except when participants have the freedom to choose to work only for themselves or to also work for a chosen charity. This is in accord with our findings from studies 1 and 2 and further demonstrates the importance of increasing perceived autonomy when people work for others.

Our findings suggest that the reduction in effort provision associated with working for others is generally applicable to situations where a portion of labor earnings goes to others and no choice is involved. While opinions of beneficiaries play a moderating role, having the freedom to choose whether or not to work for others at all is a far more powerful determinant of effort provision in the context of our experiment. Our findings offer important insights for

policymakers: if effort provision is sensitive to the salience of taxes and workers' perceived autonomy, then policies that increase agency—whether through reducing the salience of taxes or giving people more choice in how their contributions are used—could diminish the negative impact of working for others on the willingness to work.

The remainder of this paper is structured as follows. Section 2 discusses related literature. Section 3 details our main research questions. Section 4 describes our conceptual framework. Section 5 explains the elements of our experimental design, procedures, and outcome variables that are common to all 3 studies. Sections 6-8 discuss the specific experimental designs for each of the 3 studies in more detail and detail the results from each study. Section 9 concludes.

2 Related Literature

While the behavioral effects of taxation on effort provision are difficult to determine in empirical settings (see Keane (2011) for a review), most of the experimental literature has found that taxation negatively impacts effort provision (Sausgruber, Sonntag, and Tyran, 2021; Brunner, Robbins, and Simonsen, 2021; Keser, Masclet, and Montmarquette, 2020; Cappelen, Haaland, and Tungodden, 2018; Kessler and Norton, 2016; Sutter and Weck-Hannemann, 2003). Kessler and Norton (2016), which is the most similar paper to ours, found a more negative effort provision response to taxation compared to an equivalent wage decrease. They also found that the effort provision response to taxation did not depend on whether the tax revenue went to the U.S. government or back to the experimenters. Coupled with our findings, this gives evidence that the impact of "taxation" on effort provision may be more about an aversion to working for others in general rather than an aversion to taxation itself. While most of the experimental literature has found negative effort provision responses to taxation, Fochmann et al. (2013) find that participants increased their effort provision in response to taxation. Fochmann et al. (2013) describe this as "net wage illusion," where

participants are essentially confused about the difference between their gross and net wages and, when taxed, work harder because they believe their net wage is higher than it actually is. By including two control groups in study 1, one where the wage is equal to the gross wage in the treatment groups and one where the wage is equal to the net wage in the treatment groups, we rule out the possibility that "net wage illusion" drives our results.

Another strand of the literature on behavioral responses to taxation finds that salient taxes cause stronger responses than non-salient taxes (Cabral and Hoxby, 2012; Chetty, Looney, and Kroft, 2009; Finkelstein, 2009; Sausgruber and Tyran, 2005). In an empirical study, Lehmann, Marical, and Rioux (2011) find no labor supply response to changes in payroll taxes but find a negative response to changes in income taxes. Payroll taxes are handled by employers, and employees experience increases in these taxes as wage cuts rather than as explicit tax increases. Income taxes are handled by employees, and thus employees see the direct connection between increased income taxes and decreased net wages. Along these same lines, we find evidence that offering lower wages (without any mention of taxation) does not impact effort provision while explicit taxation causes effort provision to decrease.

A strand of the vast literature on social preferences focuses on the influence of beliefs about deservingness on preferences for redistribution (Hufe, Kanbur, and Peichl, 2022; Almås, Cappelen, and Tungodden, 2020; Gee, Migueis, and Parsa, 2017; Lefgren, Sims, and Stoddard, 2016; Durante, Putterman, and Van der Weele, 2014; Andreoni and Miller, 2002; Charness and Rabin, 2002; Fehr and Schmidt, 1999; Rabin, 1993). This literature has overwhelmingly found that people prefer redistributing to individuals who are seen as deserving compared to individuals who are seen as undeserving. Since taxation and charitable giving are both forms of redistribution, the underlying conceptual structures in the discussions about redistribution, taxation, and charitable giving are very similar. While preferences for redistribution differ from preferences for giving (see Mollerstrom, Strulov-Shlain, and Taubinsky, 2022), opinions of the beneficiaries of redistribution are an important determinant of the demand for redistribution. Therefore, these opinions may also impact the

relationship between working for others and effort provision.

Also, while most of the literature on charitable giving focuses on voluntary donations, multiple studies have found that, in experimental settings, the effort provision response to working both for self and for a charity depends on perceptions of the charity (Kajackaite, 2015; Ariely, Bracha, and Meier, 2009). If a charity is perceived positively, the effort provision response to working for this charity is less negative than when a charity is perceived negatively. People are willing to incur personal costs (by working less, and earning less money for themselves) to avoid benefiting charities they perceive negatively. Li, C. C. Eckel, et al. (2011) found that charitable giving (including donating directly to the government) is influenced by perceptions of the effectiveness of the specific beneficiaries. Voluntary donations increase when people are able to donate directly to specific government agencies rather than to the government as a whole (Li, C. Eckel, et al., 2015). Together, this research indicates that charitable giving is often dependent on whether the donor has some control over where their donations go and whether the beneficiary is perceived positively.

This paper also relates to the literature on preferences for autonomy. Autonomy in decision-making has long been considered to be important for personal wellbeing (Vugts et al., 2020; Deci and Ryan, 2000; Deci and Ryan, 1985). Standard economic models suggest that autonomy only has instrumental value, due to it allowing people to make optimal decisions. However, autonomy may also have intrinsic value (Taylor, 2005; Nussbaum, 2000; Sen, 1988; Young, 1982). Several experiments have found that people do indeed value autonomy intrinsically (Freundt, Herz, and Kopp, 2023; Meemann, 2023; Bartling, Fehr, and Herz, 2014). To some extent, negative responses to taxation and redistribution are moderated by the presence of democratic institutions, indicating that people value the perceived control associated with voting (Sausgruber, Sonntag, and Tyran, 2021; Lamberton, 2013; Alm, McClelland, and Schulze, 1999). Also, increasing perceived autonomy can increase alumni donations to universities, even when the choices of donors are not implemented (Kessler, Milkman, and Zhang, 2019). We contribute to this literature by showing that the value of

autonomy is context-dependent. In our experiment, the ability to choose the beneficiary organization does not make effort provision less negative. However, the negative response is diminished when participants are given the freedom to choose to work only for themselves or to also work for a chosen beneficiary. Thus, our finding that participants value freedom of choice (ie. having more available options) more than agency (ie. being able to make a choice at all) adds to the findings in the literature on preferences for autonomy.

To the best of our knowledge, our paper is the first to compare how effort provision responds to taxation and other similar forms of redistribution on multiple dimensions. By including two control groups in study 1, one where the wage is the same as the gross wage in the treatment groups and one where the wage is the same as the net wage in the treatment groups, we test whether effort provision is responsive to changes in wages. In our experiment, there is no difference in effort provision between these control groups. This adds to the literature by confirming that there is indeed a negative response to taxation which cannot be explained by differences in wages or confusion about gross and net wages. This paper also contributes to the literature by finding a general aversion to working for others, rather than a specific aversion to taxation. In the setting of our experiment, choice itself does not diminish the negative response to working for others, but giving people the freedom to work only for themselves mitigates the negative impact on effort provision. Our results provide insights on how the framing and implementation of taxes can be varied to minimize the negative effects of taxation on effort provision.

3 Research Questions

We have the following research questions.

- ***Q1:*** Do taxation and other similar forms of working for others impact effort provision, even when net wages are held constant?

- ***Q2:*** To what extent are these responses driven by confusion about gross and net wages

or differences in the total value of each task between each treatment group and the control group?

- ***Q3:*** Do positive opinions of the beneficiary organizations moderate the impact of working for others on effort provision?

- ***Q4:*** How does the impact on effort provision change when people are given the ability to choose between the beneficiary organizations? Does having the freedom to choose to work only for self or to work for a chosen organization impact effort provision differently than only having the ability to choose?

- ***Q5:*** For all of the above research questions, to what extent are differences in effort provision driven by variation in chosen working time versus variation in efficiency while working?

4 Conceptual Framework

When the individual monetary benefit from one's own tax revenue is very low, purely self-interested individuals supply labor based on after-tax wages and their personal utility gained from leisure. These individuals do not place any weight on the benefits others receive from the tax revenue they generate. Therefore, effort provision should not depend on the form redistribution takes because the only direct impact of this type of redistribution on purely self-interested individuals is the decrease in net wages associated with taxation.

However, most people's behavior is influenced by social motivations, which may influence effort provision. In this context, "social motivations" refers to people placing some weight on the benefits others receive from the tax revenue they generate. Individuals whose effort provision is influenced by social motivations may have varying responses to different forms of redistribution. For instance, if the beneficiaries of one form of redistribution are perceived negatively, effort provision under this form of redistribution may be more negative compared

to a form of redistribution where the beneficiaries are perceived positively.

In our experiment, there is no personal monetary return to the revenue participants generate, and there is no personal monetary return to the revenue other participants generate. Therefore, we assume participants' labor utility takes the following form:

$$U_i = \alpha_i \left((1-t)w_i\ell_i e_i\right) + \beta_i \left((a_i - b_i)tw_i\ell_i e_i\right) + \gamma_i \left(L - \ell_i\right) + \phi_i C_i + \psi_i T \tag{1}$$

The preference parameters $\alpha_i, \beta_i, \gamma_i$, and ϕ_i represent the impact of net wages (α_i), social motivations (β_i), leisure time (γ_i), choosing the beneficiaries of tax revenue (ϕ_i), and a general aversion to working for others (ψ_i) on individual i's utility. For the purposes of this conceptual framework, we assume $\alpha_i + \beta_i + \gamma_i + \phi_i + \psi_i = 1$.

The chosen working time by individual i is ℓ_i, while their efficiency (tasks per minute) is e_i. The gross wage is w_i, while the tax/withholding rate is $t \in [0, 0.25]$. The weight individual i places on their withheld earnings going to an organization they support is a_i, while the weight placed on their withheld earnings going to an organization they oppose is $b_i = 1 - a_i$. The maximum possible working time is L. The type of choice individual i has is $C_i \in \{0, 1, 2\}$, where $C_i = 0$ when no choice is involved, $C_i = 1$ when choice is restricted (we refer to this treatment as *Choice (restricted)*), and $C_i = 2$ when choice is unrestricted (we refer to this treatment as *Choice (unrestricted).*) The presence of taxation/withheld earnings is represented by $T \in \{0, 1\}$ ($T = 0$ when $t = 0$, $T = 1$ when $t \neq 0$).

In our experiment, participants choose how long to work (represented by ℓ_i in our utility function) and how efficient to be while working (represented by e_i in our utility function). Since assignment to treatment is independent of the preference parameters α_i, β_i, γ_i, ϕ_i, and ψ_i, differences in these preferences between the control and treatment groups should not drive our experimental findings.

To estimate the impact of taxation and other tax-like forms of redistribution on effort provision when no choice is involved, we can compare effort provision between a control

group (we refer to this control group as $CONTROL_{LOW}$) and the treatments in each study where participants are assigned to earn money for a particular organization. We hold net wages constant across each of these groups. For each of these groups, $C_i = 0$. Therefore, the utility function simplifies to:

$$U_i = \alpha_i \left((1-t)w_i \ell_i e_i\right) + \beta_i \left((a_i - b_i)tw\ell_i e_i\right) + \gamma_i \left(L - \ell_i\right) + \psi_i T \tag{2}$$

The tax rate is $t = 0.25$ for those in the treatment groups, and is $t = 0$ for those in $CONTROL_{LOW}$. The gross wage (w_i) is lower in $CONTROL_{LOW}$ than in the treatment groups. However, by construction, net wages are constant between the treatment groups and $CONTROL_{LOW}$ (i.e. $w_i^{CONTROL_{LOW}} = (1-t)w_i^{TREATMENT}$). There is no taxation or redistribution in $CONTROL_{LOW}$ ($T = 0$) while there is taxation and redistribution in the treatment groups ($T = 1$). Any differences in effort provision between $CONTROL_{LOW}$ and the treatment groups could be due to a response to taxation/working for others in general (eg. $\bar{\psi} \neq 0$) or to systematically positive/negative opinions of the organizations associated with the treatments (eg. $\bar{a}_i \neq \bar{b}_i$). In studies 1 and 2, we use politically-oriented organizations as our beneficiaries and balance each treatment by political orientation. If we then assume that $\bar{a}_i = \bar{b}_i$ (the average opinion of each organization is equal, and is neither positive nor negative) across all treatments, then any differences in effort provision between $CONTROL_{LOW}$ and the treatment groups are due to a response to working for others in general (eg. $\bar{\psi} \neq 0$). In study 3, we use highly trusted charitable organizations as our beneficiaries. In this case, if we assume that $\bar{a}_i > \bar{b}_i$ (ie. the average participant supports the organization they are matched with), then any difference in effort provision between $CONTROL_{LOW}$ and the treatment group in study 3 that does not involve choice would provide additional evidence that working for others in general impacts effort provision.

To estimate the impact of wage differences in the absence of taxation, we compare effort provision between $CONTROL_{LOW}$ and a control group where the wage is equal to the pre-

tax/donation wage in the treatments (we refer to this control group as $CONTROL_{HIGH}$). We include both of these control groups in study 1. In the control groups, $t = 0$, $C_i = 0$, and $T = 0$. Therefore, the utility function simplifies to:

$$U_i = \alpha_i \left(w_i \ell_i e_i \right) + \gamma_i \left(L - \ell_i \right) \tag{3}$$

In equation (3), utility is increasing in the wage. The only systematic difference between the control groups is that the wage in $CONTROL_{HIGH}$, w_i^{high}, is more than the wage in $CONTROL_{LOW}$, w_i^{low}. Since $w_i^{high} > w_i^{low}$, each additional unit of effort in $CONTROL_{HIGH}$ generates a larger increase in utility compared to each additional unit of effort in $CONTROL_{LOW}$. Therefore, we predict that effort in $CONTROL_{HIGH}$ will be at least as high as effort in $CONTROL_{LOW}$.

To estimate the impact of opinions of the beneficiary organizations on effort provision, we pool all participants from the treatments that do not involve choice and test for a relationship between opinions and effort provision. We conduct this analysis for both study 1 and study 2. Above, we described how we balance our treatments by political orientation, so that $\bar{a}_i = \bar{b}_i$, to allow us to test for a general aversion to working for others. By pooling all participants from the different treatments, we can additionally test for the impact of opinions of the beneficiary organizations on effort provision. Once again, $C_i = 0$ for all participants and net wages are held constant between treatments. The utility function is therefore the same as equation (2).

In this comparison, the only systematic difference between the participants is their opinions about the organizations with which they are matched. As represented by equation (2), utility is strictly increasing in a_i, the weight participants place on taxes/donations going to organizations they support. As a_i increases, the impact of each additional unit of effort on utility increases. Therefore, we predict a positive relationship between participants' opinions about the organizations with which they are matched and their effort provision.

To estimate the impact of choice on the response to working for others, we first compare average effort provision between the treatment groups that include a choice about which organization to work for and the $CONTROL_{LOW}$ group in studies 2 and 3. Since participants in the treatments that do not involve choice are randomly assigned to these treatments, and since we balance each treatment by political orientation, participants in these groups have a range of opinions about the organization with which they are matched. In comparison, those in the choice treatments (in studies 2 and 3) can choose the organization for which they work. If participants choose the organization they prefer, then we would expect participants in these groups to have more positive opinions of the organization they are matched with, on average, than participants in the treatments that do not involve choice (eg. $\bar{a}_{CHOICE} > \bar{a}_{NO-CHOICE}$). Since the impact of effort on utility is strictly increasing in a_i, we expect effort provision to be higher among those who can choose the beneficiary organization compared to those who do not have a choice.

We can also, by holding opinions of the organizations constant, test whether choice impacts effort provision apart from the impact of choice on opinions of the organizations with which participants are matched. Studies 2 and 3 include treatments where there is no choice, where there is a choice but participants must work for an organization (we refer to these treatments as *Choice (restricted)*), and where participants can either choose to work only for self or for a chosen organization (we refer to these treatments as *Choice (unrestricted)*). The only systematic difference between these groups is C_i. $C_i = 0$ for participants in the control groups and no-choice treatments, $C_i = 1$ for participants in the *Choice (restricted)* treatment, and $C_i = 2$ for participants in the *Choice (unrestricted)* treatment. When comparing each of these treatment groups to the $CONTROL_{LOW}$ group, any differences in effort are due to the effects of different types of choice on effort provision.

Apart from the instrumental role choice plays in allowing participants to work for their most favored organization, we predict that choice itself, and the perceived autonomy associated with having a choice, is valued by respondents. We expect effort provision to be higher

in *Choice (restricted)* and *Choice (unrestricted)* than in $CONTROL_{LOW}$, even after controlling for opinions of the organizations. We also predict that as freedom of choice increases, effort provision will become more positive. Therefore, we predict that effort provision will be more positive (or less negative) in *Choice (unrestricted)* than in *Choice (restricted)*.

5 Experimental Design, Procedures, and Outcome Variables

5.1 Experimental Design

Studies 1, 2, and 3 each share a very similar experimental design. We give an overview of the common framework in this section, and provide additional details about the design of each study in sections 6.1, 7.1, and 8.1.

Each study uses a between-subjects design, where each participant is assigned to one treatment or control group. All participants work on a real-effort task (adapted from Bhattacharya and Mollerstrom, 2023). Each iteration of the task involves "encoding" a letter into a number. After each iteration of the task, the encoding key is randomly reordered. Participants may complete as many of these tasks as possible within the time limit they choose. Participants earn points, which are converted to dollars at a rate of 60 points per \$1 at the end of the experiment. Each of the treatments involves 25% of earnings being withheld and donated to different organizations, while no earnings are explicitly withheld from the control groups.

5.2 Procedures

Studies 1, 2, and 3 also share very similar procedures. Below is an outline of the experimental procedures for each of the 3 studies. Full details of each of the studies are available here.

1. Political orientation

After they give consent but before they are randomized into treatments, we ask each participant whether they are socially liberal or conservative and whether they are economically liberal or conservative, on a scale from 0 (most liberal) to 10 (most conservative).

2. Treatment-specific information and instructions

   In each of the treatments, participants receive information about the organizations for which they will work. In studies 2 and 3, for participants assigned to *Choice (restricted)* and *Choice (unrestricted)*, we provide information about each of the potential beneficiary organizations. Then we explain the effort task (framed as a "coding task") and the earnings scheme. Participants in *Choice (restricted)* and *Choice (unrestricted)* then choose which earnings scheme they prefer.

   In each of the control groups, we explain the effort task and the earnings scheme, with no reference to any of the organizations mentioned in the treatments until just after completion of the effort task.

3. Participants choose how long they want to work

   After we give participants information about the effort task and the earnings scheme, but before they start the effort task, we ask "Before you start, how much time do you want to spend completing coding tasks?" Participants then choose an amount of time between 0 and 3 minutes, in 30 second intervals.

4. Participants complete as many tasks as possible within their chosen time limit

   Immediately after choosing how long they want to work, participants begin the effort task. The effort task is a modified version of the effort task from Bhattacharya and Mollerstrom (2023), where participants work on a "coding task" that involves entering numbers corresponding to letters shown on the

screen. Participants in the treatments are shown the remaining time, total points they have earned for themselves, and total points earned for the beneficiary organization. Participants in the control groups see all of the same information, except for any pre-task reference to the organizations.

5. Participants give their opinion of each of the potential beneficiary organizations

   Upon completion of the effort task, we give each participant information about all of the possible organizations. Then, for each organization, we ask "How much do you trust _____ to generally do what is right with the money it receives?" There are 5 potential answers that range from "Not at all" (worst opinion) to "A great deal" (best opinion). This is a modified version of a similar question in a recent study about Americans' opinions of non-profits (IUPUI, 2023). In study 3, participants in the treatment groups give these opinions (and rank the charities in terms of trustworthiness) in the "Treatment-specific information and instructions" section of the experiment.[1]

6. Demographic questions

   We conclude the experiment by asking standard demographic questions, including age, gender, education, race/ethnicity, religious affiliation, and income. In studies 2 and 3, we include an open-ended comment section at the end of the survey.

5.3 Outcome Variables

The outcome variables in each of the studies are how long participants choose to work ($Time$), measured in seconds, and efficiency while working ($Efficiency$), measured in tasks

[1] We asked participants in study 3 to give their opinions before completing the effort task because one of the treatments in study 3 involves assigning participants to work for the charity they personally trust the most.

completed per minute. By testing for treatment effects on these variables, we test for the impact of working for others on effort provision on the extensive margin ($Time$) and on the intensive margin ($Efficiency$).

6 Study 1

The primary goal of study 1 is to determine the impact of taxation and other similar forms of working for others, such as donating to political parties or charitable organizations, on effort provision. By comparing effort provision between the control groups, we can also determine whether the main results are due to gross wage differences between the treatment groups and $CONTROL_{LOW}$. These comparisons allows us to test research questions Q1 and Q2: whether taxation and other similar forms of working for others impact effort provision even when net wages are held constant, and whether these responses are driven by confusion about gross and net wages or differences in the total value of tasks. Additionally, by pooling the treatments and testing for a relationship between effort provision and opinions of the beneficiaries, we can answer research question Q2. By including multiple control groups and balancing treatments by political orientation, we aim to isolate the impact of working for others on effort provision from other confounding effects. The findings from Study 1 provide a comprehensive baseline for understanding the general response to "working for others" and set the stage for further investigations in Studies 2 and 3.

6.1 Experimental Design - Study 1

Study 1 includes 5 treatment groups and 2 control groups. Details for each of the treatment and control groups are shown in Figure 1.

Figure 1: Treatment and Control Groups, Study 1

Treatment	Beneficiary	Points to self (per task)	Points to other (per task)
$GOVT$	Self and the Federal Government of the United States	3	1
GOP	Self and the Republican Party	3	1
DEM	Self and the Democratic Party	3	1
$ACLU$	Self and the American Civil Liberties Union	3	1
HF	Self and the Heritage Foundation	3	1
$CONTROL_{LOW}$	Self only	3	0
$CONTROL_{HIGH}$	Self only	4	0

Notes: The points described above are converted to dollars (60 points per $1) at the end of the experiment. 3 points = $0.05; 4 points = $0.067; 1 point = $0.0167

6.1.1 Implementation - Study 1

We pre-registered the experiment with the American Economic Association's RCT registry.[2] We conducted study 1 in July and August 2023. Study 1 (along with studies 2 and 3) was conducted online. We recruited 700 participants for study 1 (100 per treatment and control group) through Prolific, and conducted the experiment with Qualtrics Survey Software. Participants had to be U.S.-based, at least 18 years old, and have a 90% or higher approval rating on Prolific to be eligible. We balanced each treatment and control group by political orientation.

6.2 Results - Study 1

6.2.1 Descriptive Statistics - Study 1

By construction, political orientation is balanced among liberals, moderates, and conservatives. The average participant in study 1 is 44 years old, and 49% identify as female. Approximately 60% of participants have at least a 2 year college degree. 74% of the partici-

[2]RCT ID: AEARCTR-0011571

pants identify as White/Caucasian, and 68% identify as religious. Across all treatment and control groups, average chosen working time is 131.7 seconds (out of a maximum of 180 seconds) and average efficiency is 10.16 tasks per minute. The distributions of chosen working time and efficiency, broken down by treatment and control group, are shown in Figure A1.

Table 1: Descriptive Statistics, Study 1

	mean	sd	min	max
Liberal	0.330	0.47	0	1
Moderate	0.330	0.47	0	1
Conservative	0.330	0.47	0	1
Age	44.01	14.40	18	94
Female	0.49	0.50	0	1
College degree	0.60	0.49	0	1
White/Caucasian	0.74	0.44	0	1
Religious	0.68	0.47	0	1
Annual Income	5.22	3.14	1	11
Chosen Working Time (in seconds)	131.74	63.41	0	180
Efficiency (tasks per minute)	10.16	2.903	0	18
Observations	700			

Notes: Liberal, Moderate, and Conservative are binary variables, collected by Prolific, representing each participant's self-reported political orientation. Age is measured in years. Female is a binary variable that =1 if a participant identifies as female. College degree is a binary variable that =1 if a participant has at least a 2 year college degree. White/Caucasian is a binary variable that =1 if a participant solely identifies as White/Caucasian. Religious is a binary variable that =1 if a participant does not identify as atheist or agnostic. Annual income is measured in $10,000 increments. Chosen working time ranges from 0 to 180 seconds, in 30 second intervals. Since Efficiency (tasks per minute) is undefined for participants whose chosen working time is zero, the summary of efficiency in this table only includes the 660 participants in study 1 whose chosen working time was not zero.

6.2.2 Treatment Balance - Study 1

Table 2 compares the means of the demographic variables we collect between the $CONTROL_{LOW}$ group and each of the other treatment/control groups in study 1. Political orientation, age, race, and religious status are balanced between each of the treatments and the $CONTROL_{LOW}$ group. There are significantly less women in the $GOVT$, GOP, DEM, and $ACLU$ treatments compared to $CONTROL_{LOW}$, and significantly more college graduates in $CONTROL_{HIGH}$

and $GOVT$ compared to $CONTROL_{LOW}$. Also, average annual income is significantly lower in $CONTROL_{LOW}$ compared to the treatments. To account for these differences, we control for all of these demographic variables in our analysis. The inclusion of these demographic variables in our regressions does not substantially change our results.

Table 2: Treatment Balance, Study 1

Variable	$CONTROL_{LOW}$	$CONTROL_{HIGH}$	$GOVT$	GOP	DEM	$ACLU$	HF
Liberal	0.330	0.340	0.310	0.340	0.330	0.340	0.340
	(0.473)	(0.476)	(0.465)	(0.476)	(0.473)	(0.476)	(0.476)
Moderate	0.340	0.330	0.330	0.340	0.340	0.330	0.330
	(0.476)	(0.473)	(0.473)	(0.476)	(0.476)	(0.473)	(0.473)
Conservative	0.330	0.330	0.360	0.320	0.330	0.330	0.330
	(0.473)	(0.473)	(0.482)	(0.469)	(0.473)	(0.473)	(0.473)
Age	42.650	44.180	44.910	43.970	44.370	43.520	44.460
	(14.802)	(14.642)	(14.153)	(13.685)	(14.878)	(13.608)	(15.238)
Female	0.610	0.530	0.410***	0.470**	0.460**	0.440**	0.510
	(0.490)	(0.502)	(0.494)	(0.502)	(0.501)	(0.499)	(0.502)
College degree	0.520	0.650*	0.660**	0.550	0.560	0.600	0.650*
	(0.502)	(0.479)	(0.476)	(0.500)	(0.499)	(0.492)	(0.479)
White/Caucasian	0.710	0.760	0.690	0.790	0.760	0.770	0.720
	(0.456)	(0.429)	(0.465)	(0.409)	(0.429)	(0.423)	(0.451)
Religious	0.680	0.620	0.740	0.730	0.730	0.630	0.660
	(0.469)	(0.488)	(0.441)	(0.446)	(0.446)	(0.485)	(0.476)
Annual Income	3.650	5.130***	5.560***	5.410***	5.430***	5.490***	5.860***
	(2.661)	(3.126)	(3.313)	(3.373)	(2.854)	(3.202)	(2.975)
Observations	100	100	100	100	100	100	100

* $p < .1$, ** $p < .05$, *** $p < .01$

Notes: Significance levels are based on t-tests comparing the means of the demographic variables between the $CONTROL_{LOW}$ group and each of the other treatment/control groups. Liberal, Moderate, and Conservative are binary variables, collected by Prolific, representing each participant's self-reported political orientation. Age is measured in years. Female is a binary variable that =1 if a participant identifies as female. College degree is a binary variable that =1 if a participant has at least a 2 year college degree. White/Caucasian is a binary variable that =1 if a participant solely identifies as White/Caucasian. Religious is a binary variable that =1 if a participant does not identify as atheist or agnostic. Annual Income is measured in $10,000 increments.

6.2.3 Taxation and other similar forms of working for others negatively impact effort provision

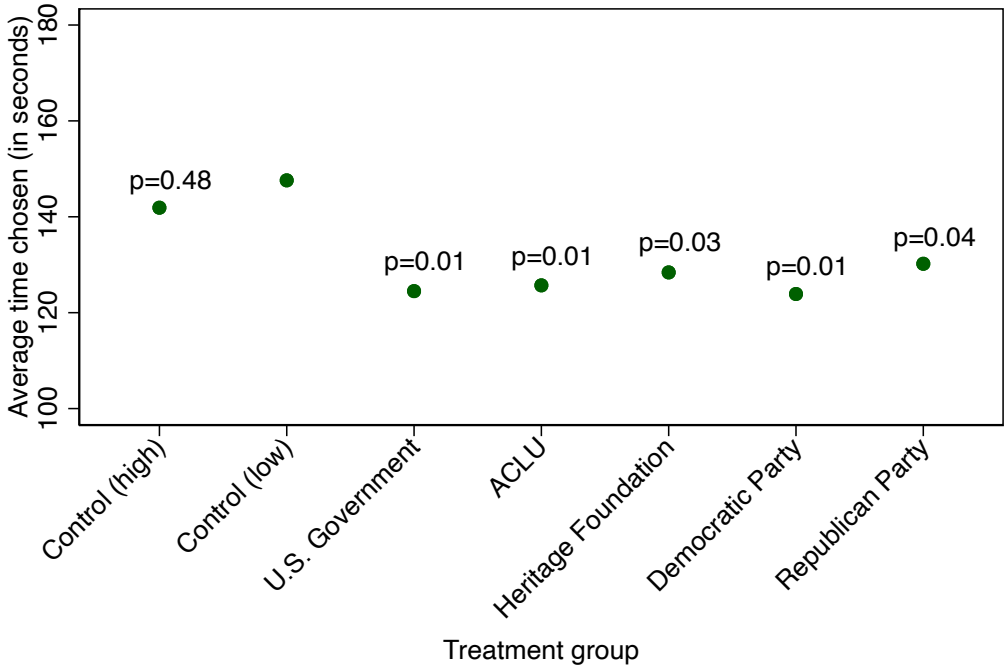
To answer research question ***Q1***, we compare effort provision between $CONTROL_{LOW}$ and each of the treatment groups from study 1.

As shown in Figure 2a and tested in columns (1)-(2) of Table 3, the average chosen working time by the participants in our experiment is significantly lower in each treatment

compared to $CONTROL_{LOW}$. In addition to a negative response to taxation, we find a more general negative response, as expressed by chosen working time, to working for each of the beneficiary organizations. There is no difference in tasks per minute ($Efficiency$) between any of the treatments and $CONTROL_{LOW}$ (see Figure 2b and columns (3)-(4) of Table 3).

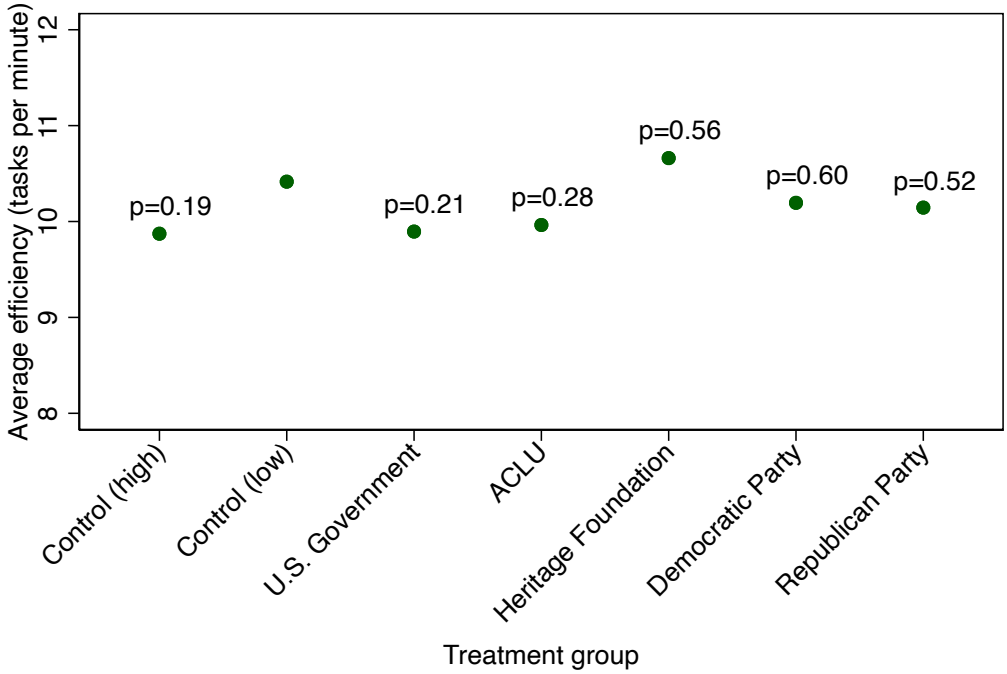
Figure 2: Chosen working time and efficiency, by treatment and control group, Study 1

(a) *Chosen working time*



Notes: p-values based on two-tailed t-tests comparing means between each treatment group and Control (low)

(b) $Efficiency$



Notes: p-values based on two-tailed t-tests comparing means between each treatment group and Control (low)

Table 3: Chosen working time and efficiency, by treatment and control group, Study 1

	Time	Time	Efficiency	Efficiency
Control (high)	-5.700	-4.934	-0.543	-0.762**
	(8.108)	(8.364)	(0.400)	(0.356)
U.S. Government	-23.10***	-21.16**	-0.521	-0.395
	(8.269)	(8.342)	(0.419)	(0.355)
ACLU	-21.90***	-20.12**	-0.452	-0.420
	(8.468)	(8.554)	(0.390)	(0.338)
Heritage Foundation	-19.20**	-17.70**	0.246	0.188
	(8.673)	(8.839)	(0.361)	(0.317)
Democratic Party	-23.70***	-22.15**	-0.221	-0.373
	(8.435)	(8.578)	(0.398)	(0.337)
Republican Party	-17.40**	-16.00*	-0.271	-0.315
	(8.570)	(8.663)	(0.409)	(0.338)
Constant	147.6***	158.6***	10.42***	14.05***
	(5.422)	(10.49)	(0.252)	(0.396)
Controls	No	Yes	No	Yes
Observations	700	700	660	660

Robust standard errors in parentheses

* $p < .1$, ** $p < .05$, *** $p < .01$

Notes: This table reports the results of OLS regressions. The dependent variable in columns (1)-(2) is chosen working time, while the dependent variable in columns (3)-(4) is efficiency (tasks per minute). This table includes participants from study 1. The sample size is smaller in columns (3)-(4) than in columns (1)-(2) because efficiency is undefined for those who choose not to work at all. "Controls" include each participant's gender, age, education, race/ethnicity, religious status, annual income, and a binary variable indicating whether the participant completed the experiment on a mobile device. The full results, including the coefficients for the control variables, are shown in Table A1.

6.2.4 Gross wage differences cannot explain the differences in effort provision

To answer research question ***Q2***, we compare average chosen working time and efficiency between $CONTROL_{LOW}$ and $CONTROL_{HIGH}$. Based on our conceptual framework, there should be a non-negative relationship between wages and effort provision. In line with

this, effort provision is not significantly different between the control groups, either when measured by chosen working time (see Figure 2a) or when measured by efficiency (see Figure 2b). Therefore, the negative responses to working for others that we find are significantly larger than the response to an equivalent difference in wages. Thus, the negative response to working for others cannot be explained by confusion about gross and net wages or differences in the total value of each task between each treatment group and $CONTROL_{LOW}$.

Columns (1)-(2) of Table 3 confirm that chosen working time does not differ significantly between the control groups. Column (3) of Table 3 shows that, when demographic controls are not included in the regression, efficiently does not differ significantly between the control groups. Although column (4) of Table 3 shows that the inclusion of demographic variables results in a significant difference in efficiency between the control groups, the negative response is overwhelmingly driven by variation in chosen working time.

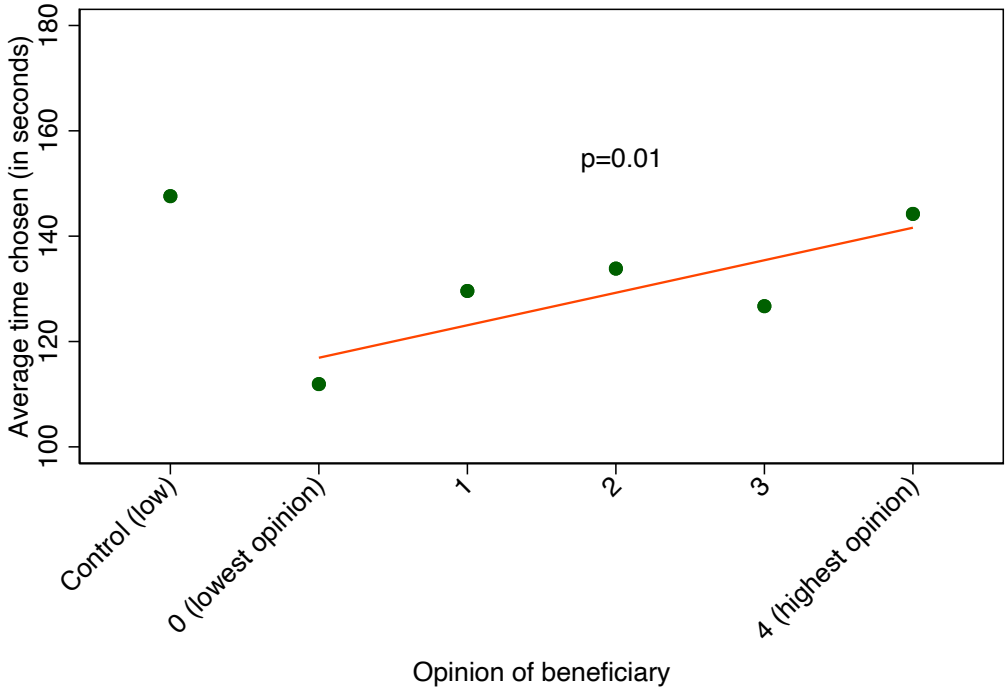
6.2.5 Opinions about the beneficiary organizations matter, but the impact on effort provision remains overwhelmingly negative

To answer research question ***Q4***, we pool all of the treatments (in study 1) together and test for a relationship between effort provision and each participant's opinion of the organization with which they are matched. This allows us to test for a relationship between opinions of the beneficiaries and effort provision, regardless of the particular organizations with which participants are matched.

As shown in Figure 3a and tested in columns (1)-(2) of Table 4, we find a significant positive relationship between participants' chosen working time and their opinions about the organizations with which they are matched. While this relationship is positive, the overall response (as measured by chosen working time) remains overwhelmingly negative for all but the participants with the highest possible opinions of the organizations with which they are matched. We do not find a relationship between efficiency and participants' opinions of the organizations with which they are matched (see Figure 3b and columns (3)-(4) of Table 4).

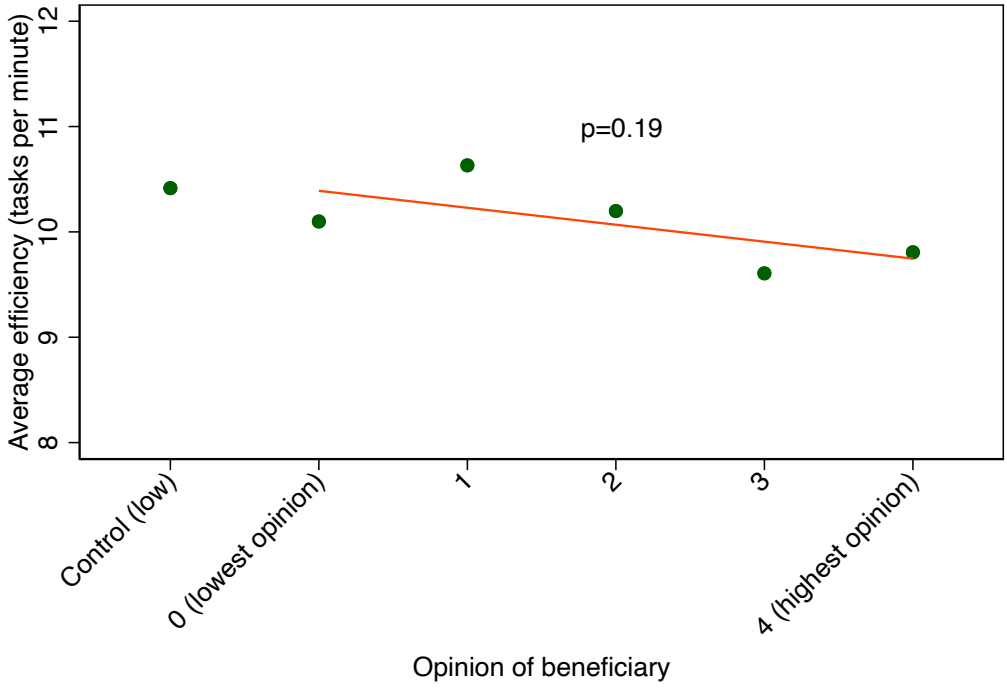
Figure 3: Chosen working time and efficiency, by opinion of beneficiary organization, Study 1

(a) *Chosen working time*



Notes: p-value based on OLS regression of efficiency on opinion of beneficiary

(b) *Efficiency*



Notes: p-value based on OLS regression of efficiency on opinion of beneficiary

Table 4: Chosen working time and efficiency, by opinion of beneficiary, Study 1

	(1) Time	(2) Time	(3) Efficiency	(4) Efficiency
Opinion of beneficiary	6.279**	6.795***	-0.155	-0.0943
	(2.469)	(2.464)	(0.123)	(0.107)
Constant	117.2***	143.3***	10.41***	13.97***
	(4.954)	(12.06)	(0.237)	(0.463)
Controls	No	Yes	No	Yes
Observations	500	500	466	466

Standard errors in parentheses

* $p < .1$, ** $p < .05$, *** $p < .01$

Notes: This table reports the results of OLS regressions. The dependent variable in columns (1)-(2) is chosen working time, while the dependent variable in columns (3)-(4) is efficiency (tasks per minute). This table includes participants in the treatment groups from study 1. The sample size is smaller in columns (3)-(4) than in columns (1)-(2) because efficiency is undefined for those who choose not to work at all. "Controls" include each participant's gender, age, education, race/ethnicity, religious status, annual income, and a binary variable indicating whether the participant completed the experiment on a mobile device. The full results, including the coefficients for the control variables, are shown in Table A2.

6.3 Discussion - Study 1

The results from Study 1 reveal that taxation significantly decreases effort provision, even when net wages are held constant. The negative response is not only confined to taxation; we also observe a significant negative response when earnings are donated to politically oriented organizations such as the Republican Party, the Democratic Party, the ACLU, and the Heritage Foundation. These findings suggest that the aversion to working for others is a broad phenomenon, not limited to government taxation but extending to other forms of redistribution.

While the response is negative across all treatment groups, the magnitude of this response varies with participants' opinions of the beneficiary organizations. Participants who hold more positive views of the organizations they are working for exhibit a less negative response.

However, the response remains overwhelmingly negative overall. This indicates that while positive perceptions of the deservingness or trustworthiness of the beneficiary can moderate the response, they are insufficient to fully counteract the underlying aversion to working for others.

7 Study 2

Building on the baseline established in Study 1, Study 2 explores the impact of choice on the response to working for others. Specifically, we investigate whether giving participants the ability to choose the beneficiary organization (restricted choice) or the freedom to choose between working only for themselves and working for themselves and a chosen organization (unrestricted choice) affects their effort provision. This study addresses research question Q4, which asks how the impact of working for others on effort provision changes when people have the ability to choose between beneficiary organizations, and whether the freedom to choose to work only for self or also for others matters. Study 2 provides insights into the role choice plays in determining the impact of working for others on effort provision. The results from this study highlight the importance of perceived autonomy in effort provision and suggest potential strategies for mitigating the negative effects observed in Study 1.

7.1 Experimental Design - Study 2

Study 2 includes 1 control group and 4 treatment groups, detailed in Figure 4. $CONTROL_{LOW}$, DEM, and GOP are exactly the same as in study 1, thus allowing us to replicate the main results of study 1. To explore the impact of having a choice about the beneficiary organizations on effort provision, we add treatments (detailed below) that involve 2 different types of choices.

To investigate the impact of choice on effort provision when working for others, we add the following treatments to study 2:

- *Choice (restricted)*:

  In this treatment, participants choose the political party to which their withheld earnings will be donated.

- *Choice (unrestricted)*:

  In this treatment, participants choose to either work solely for themselves, or to work for both themselves and the political party of their choice. If participants choose to work for themselves and a political party, their net wage is the same as if they only work for themselves. Thus, working for a political party in this treatment has no direct monetary cost to participants.

Figure 4: Treatment and Control Groups, Study 2

Treatment	Beneficiary	Points to self (per task)	Points to other (per task)
GOP	Self and the Republican Party	3	1
DEM	Self and the Democratic Party	3	1
Choice (restricted)	Self and the Republican Party or self and the Democratic Party	3	1
Choice (unrestricted)	Self only or self and choice of Republican or Democratic Party	3	1 (if chosen)
$CONTROL_{LOW}$	Self only	3	0

Notes: The points described above are converted to dollars (60 points per $1) at the end of the experiment. 3 points = $0.05; 1 point = $0.0167

7.1.1 Implementation - Study 2

Before running study 2, we updated the original pre-registration for the experiment to include details for both studies 1 and 2.[3] We conducted study 2 in October 2023. We recruited 500 participants for study 2 (100 per treatment and control group) through Prolific, and

[3]RCT ID: AEARCTR-0011571

conducted the experiment with Qualtrics Survey Software. Participants had to be U.S.-based, at least 18 years old, and have a 90% or higher approval rating on Prolific to be eligible. Additionally, participants from study 1 were not eligible to participate in study 2. We balanced each treatment and control group by political orientation.

7.2 Results - Study 2

7.2.1 Descriptive Statistics - Study 2

As in study 1, political orientation is balanced among liberals, moderates, and conservatives by construction. The average participant in study 2 is 41 years old, and 42% identify as female. Approximately 60% of participants have at least a 2 year college degree. 70% of the participants identify as White/Caucasian, and 64% identify as religious. Across all treatment and control groups, the average chosen working time is 133 seconds and average efficiency is 9.92 tasks per minute. The distributions of chosen working time and efficiency, broken down by treatment and control group, are shown in Figure A2.

In the restricted choice treatment in study 2, 51% (49%) of participants choose to work for the Democratic (Republican) Party. In the unrestricted choice treatment in study 2, 39% (21%) of participants choose to work for the Democratic (Republican) Party, while 40% of participants choose to work only for themselves.

7.2.2 Treatment Balance - Study 2

Table 6 compares the means of the demographic variables we collect between the $CONTROL_{LOW}$ group and each of the treatment groups in study 2. Political orientation, age, gender, college degree status, and religious status are balanced between each of the treatments and the $CONTROL_{LOW}$ group. There are significantly more White/Caucasian participants in the *GOP*, *Choice (restricted)*, and *Choice (unrestricted)* treatments than in $CONTROL_{LOW}$. As in study 1, we control for all of these demographic variables in our analysis. The inclusion of these demographic variables in our regressions does not substantially change our results.

Table 5: Descriptive Statistics, Study 2

	mean	sd	min	max
Liberal	0.33	0.47	0	1
Moderate	0.34	0.47	0	1
Conservative	0.33	0.47	0	1
Age	41.12	13.71	18	80
Female	0.42	0.49	0	1
College degree	0.59	0.49	0	1
White/Caucasian	0.70	0.46	0	1
Religious	0.64	0.48	0	1
Annual Income	5.46	3.35	1	11
Chosen Working Time (in seconds)	132.96	61.58	0	180
Efficiency (tasks per minute)	9.92	3.02	2	17.67
Observations	500			

Notes: Liberal, Moderate, and Conservative are binary variables, collected by Prolific, representing each participant's self-reported political orientation. Age is measured in years. Female is a binary variable that =1 if a participant identifies as female. College degree is a binary variable that =1 if a participant has at least a 2 year college degree. White/Caucasian is a binary variable that =1 if a participant solely identifies as White/Caucasian. Religious is a binary variable that =1 if a participant does not identify as atheist or agnostic. Annual income is measured in $10,000 increments. Chosen working time ranges from 0 to 180 seconds, in 30 second intervals. Since Efficiency (tasks per minute) is undefined for participants whose chosen working time is zero, the summary of efficiency in this table only includes the 484 participants in study 2 whose chosen working time was not zero.

7.2.3 The ability to choose between beneficiary organizations only matters when there is also freedom to choose to work only for self

To answer research question ***Q4***, compare average effort provision between $CONTROL_{LOW}$ and each of the treatments that involve choice in study 2. As shown in Figure 5a and tested in columns (1)-(2) of Table 7, we find a negative average response (as measured by chosen working time) to working for others in all but the unrestricted choice treatment. In column (3) of Table 7, we control for participants' opinions of the Democratic and Republican parties, and still see a negative response in all but the unrestricted choice treatment. Therefore, having the ability to choose between beneficiary organizations may not play a large role in determining the response to working for others. At the same time, giving people the freedom

Table 6: Treatment Balance, Study 2

Variable	$CONTROL_{LOW}$	DEM	GOP	$Choice_R$	$Choice_U$
Liberal	0.330	0.330	0.330	0.330	0.330
	(0.473)	(0.473)	(0.473)	(0.473)	(0.473)
Moderate	0.340	0.340	0.340	0.340	0.340
	(0.476)	(0.476)	(0.476)	(0.476)	(0.476)
Conservative	0.330	0.330	0.330	0.330	0.330
	(0.473)	(0.473)	(0.473)	(0.473)	(0.473)
Age	40.040	42.020	40.740	42.200	40.590
	(15.049)	(12.969)	(12.254)	(13.775)	(14.442)
Female	0.380	0.410	0.480	0.430	0.420
	(0.488)	(0.494)	(0.502)	(0.498)	(0.496)
College degree	0.600	0.620	0.570	0.630	0.550
	(0.492)	(0.488)	(0.498)	(0.485)	(0.500)
White/Caucasian	0.590	0.680	0.760***	0.700**	0.760***
	(0.494)	(0.469)	(0.429)	(0.461)	(0.429)
Religious	0.600	0.660	0.650	0.640	0.660
	(0.492)	(0.476)	(0.479)	(0.482)	(0.476)
Annual Income	5.530	5.930	5.330	5.030	5.500
	(3.549)	(3.229)	(3.467)	(2.980)	(3.497)
Observations	100	100	100	100	100

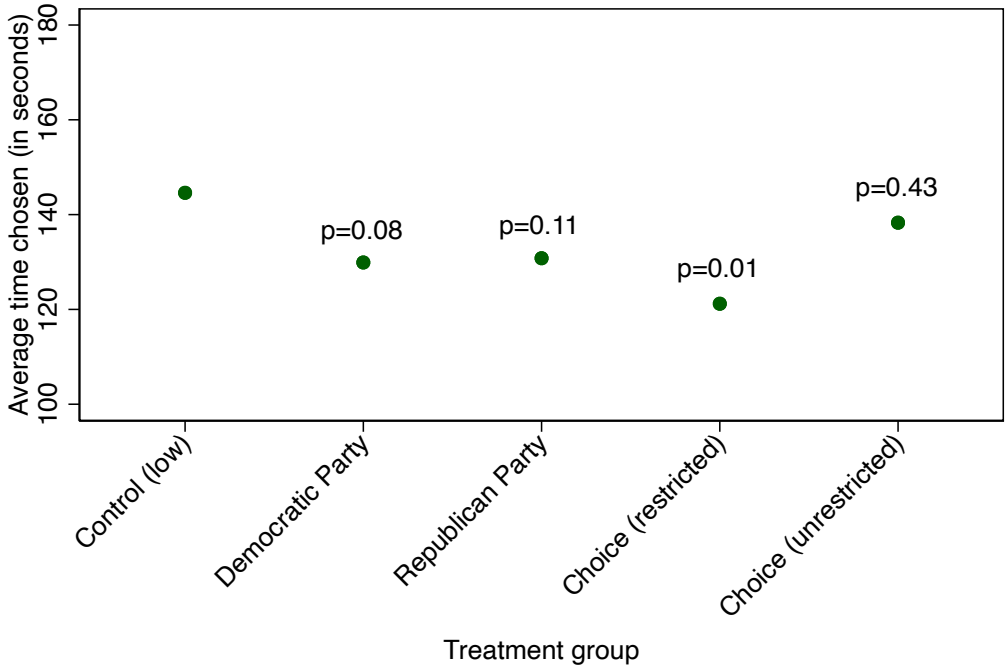
* $p < .1$, ** $p < .05$, *** $p < .01$

Notes: Significance levels are based on t-tests comparing the means of the demographic variables between the $CONTROL_{LOW}$ group and each of the other treatment/control groups. Liberal, Moderate, and Conservative are binary variables, collected by Prolific, representing each participant's self-reported political orientation. Age is measured in years. Female is a binary variable that =1 if a participant identifies as female. College degree is a binary variable that =1 if a participant has at least a 2 year college degree. White/Caucasian is a binary variable that =1 if a participant solely identifies as White/Caucasian. Religious is a binary variable that =1 if a participant does not identify as atheist or agnostic. Annual Income is measured in $10,000 increments.

to choose to work only for themselves mitigates the negative response. This effect remains even if we only include participants who end up choosing to work for themselves and an organization in the analysis. As shown in Figure 5b and columns (4)-(6) of Table 7, there is no difference in efficiency between either of the choice treatments and $CONTROL_{LOW}$. Therefore, the observed differences in effort provision are overwhelmingly driven by variation in chosen working time.

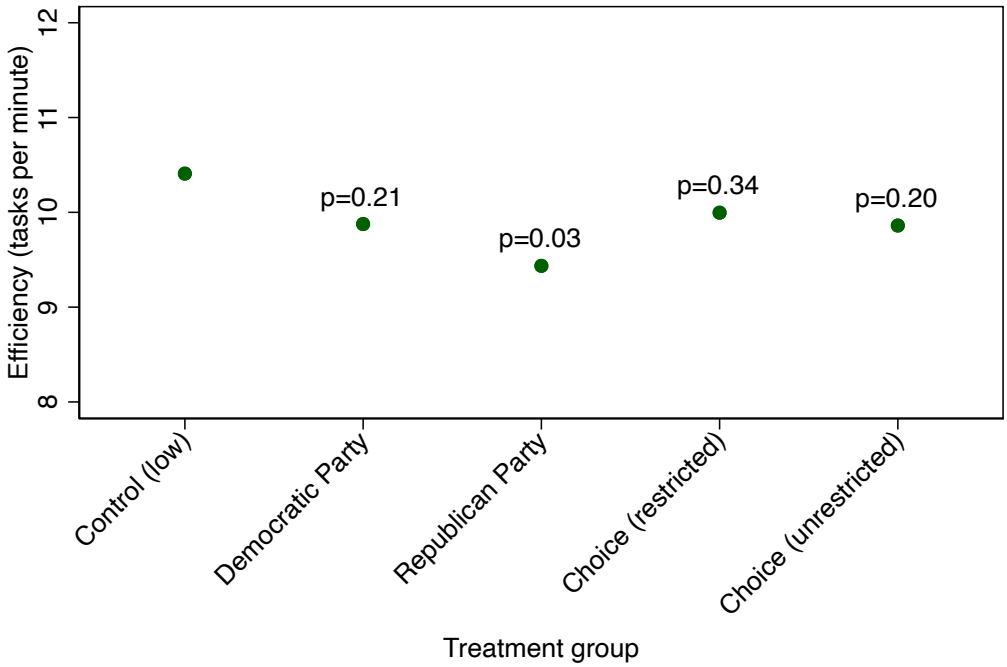
Figure 5: Chosen working time and efficiency, by treatment and control group, Study 2

(a) *Chosen working time*



Notes: p-values based on two-tailed t-tests comparing means between each treatment group and Control (low)

(b) *Efficiency*



Notes: p-values based on two-tailed t-tests comparing means between each treatment group and Control (low)

Table 7: Chosen working time and efficiency, by treatment and control group, Study 2

	(1) Time	(2) Time	(3) Time	(4) Efficiency	(5) Efficiency	(6) Efficiency
Democratic Party	-14.70*	-13.38*	-12.67	-0.532	-0.302	-0.283
	(8.317)	(8.004)	(8.003)	(0.444)	(0.341)	(0.345)
Republican Party	-13.80	-15.74*	-15.29*	-0.973**	-0.985***	-0.937***
	(8.495)	(8.355)	(8.425)	(0.431)	(0.365)	(0.362)
Choice (restricted)	-23.40***	-25.17***	-25.23***	-0.412	-0.359	-0.363
	(8.521)	(8.161)	(8.125)	(0.407)	(0.324)	(0.323)
Choice (unrestricted)	-6.300	-6.482	-6.265	-0.547	-0.448	-0.413
	(7.877)	(7.579)	(7.551)	(0.412)	(0.311)	(0.309)
Opinion of the Democratic Party			1.096			-0.0952
			(2.426)			(0.111)
Opinion of the Republican Party			-4.048			-0.185*
			(2.499)			(0.111)
Constant	144.6***	165.7***	165.9***	10.41***	14.08***	14.32***
	(5.417)	(9.673)	(10.49)	(0.288)	(0.431)	(0.483)
Controls	No	Yes	Yes	No	Yes	Yes
Observations	500	500	500	484	484	484

Robust standard errors in parentheses
* $p < .1$, ** $p < .05$, *** $p < .01$

Notes: This table reports the results of OLS regressions. The dependent variable in columns (1)-(3) is chosen working time, while the dependent variable in columns (4)-(6) is efficiency (tasks per minute). This table includes participants from study 2. The sample size is smaller in columns (4)-(6) than in columns (1)-(3) because efficiency is undefined for those who choose not to work at all. "Controls" include each participant's gender, age, education, race/ethnicity, religious status, annual income, and a binary variable indicating whether the participant completed the experiment on a mobile device. Opinions of the Democratic and Republican parties range from 0 (worst opinion) to 4 (best opinion). The full results, including the coefficients for the control variables, are shown in Table A3.

7.2.4 Replicated result from study 1: Working for others negatively impacts effort provision, regardless of the beneficiary

In study 2, we replicate the finding from study 1 that when no choice is involved, there is a negative response to working for others, regardless of the beneficiary organization. As shown in columns (1)-(2) of Table 7, chosen working time is significantly lower for those

who work for a political party compared to $CONTROL_{LOW}$ when no choice is involved. While those who work for the Republican party are significantly less efficient than those in $CONTROL_{LOW}$, the negative response is overwhelmingly driven by variation in chosen working time rather than by variation in efficiency (see columns (4)-(5) of Table 7).

7.3 Discussion

Study 2 builds on the findings of study 1 by exploring the role of choice in moderating the response to working for others. The results replicate the negative response to working for political organizations found in study 1. Moreover, they reveal that simply giving participants the ability to choose which political party to work for (restricted choice) does not mitigate the negative response. However, when participants are given unrestricted choice—the freedom to choose whether to work solely for themselves or to also work for a political party—the negative impact on effort provision is mitigated.

This indicates that perceived autonomy and the ability to opt-out of working for others are important factors in influencing effort provision. When individuals can choose to work only for themselves, they may feel a greater sense of control, which appears to mitigate the negative response observed in other conditions. This suggests that policy designs aimed at increasing taxpayer autonomy and making contributions to public goods less coercive could help reduce the negative effects associated with taxation and redistribution. Many of the participants in the unrestricted choice treatment still choose to also work for a political organization. This provides evidence that having the freedom to choose to work only for self is valued even when participants end up choosing to work for others.

8 Study 3

Study 3 further extends our investigation by focusing on highly trusted charitable organizations as potential beneficiaries, addressing the potential concern that the negative responses

observed in Studies 1 and 2 may be driven by general distrust of political organizations. This study replicates the main results of the previous studies while introducing a new set of treatments that involve highly regarded charities. Additionally, we test the role of choice in a different context by allowing participants to choose which charity to work for (restricted choice) or to choose between working only for themselves and working for a chosen charity (unrestricted choice). This study further addresses research question Q4 and explores whether the findings regarding choice from Study 2 hold in a different context. By including treatments that do not involve choice, similar to those in studies 1 and 2, we can additionally replicate our previous results related to research question Q1. By incorporating these elements, Study 3 provides a more comprehensive understanding of how perceptions of deservingness and the nature of choice influence the responses to working for others.

8.1 Experimental Design - Study 3

The overall structure of study 3 is very similar to that of studies 1 and 2. Study 3 includes 1 control group and 4 treatment groups, detailed in Figure 6. $CONTROL_{LOW}$ is the same as in studies 1 and 2. We add a treatment, *No choice*, which assigns participants to work for self and for the charity they personally trust the most, out of a list of 5 potential charities.[4] Participants in this treatment do not know they are assigned to their most trusted charity, they are simply informed that they will earn points both for self and for this charity. Therefore, this treatment is similar to the treatments in studies 1 and 2 that do not involve choice. The assignment of participants to work for their most trusted charity allows us to explore the extent to which the negative responses we found in studies 1 and 2 were due to a general distrust of political organizations. To further explore the impact of having a choice about the beneficiary organizations on effort provision, we include restricted and unrestricted choice

[4]To create the list of potential charities, we ran a short, unincentivized survey on Prolific with 100 participants (balanced by political orientation). We showed each participant information about a list of 12 potential charities and asked them to rate how how they trust each charity. Based on these responses, we selected the top 5 most trusted charities (on average) and used these as the potential charities in study 3. The 5 charities are: St. Jude Children's Research Hospital, The Make-a-Wish Foundation of America, Doctors Without Borders, The American Red Cross, and Habitat for Humanity

treatments which are very similar to those in study 2. In study 3, participants in these treatments choose which charity (from the list of 5 potential charities) they would like to work for, and in the case of the unrestricted choice treatment, participants may also choose to work only for themselves.

Figure 6: Treatment and Control Groups, Study 3

Treatment	Beneficiary	Points to self (per task)	Points to other (per task)
No choice	Self and most trusted charity	3	1
Choice (restricted)	Self and chosen charity	3	1
Choice (unrestricted)	Self only or self and chosen charity	3	1 (if chosen)
$CONTROL_{LOW}$	Self only	3	0

Notes: The points described above are converted to dollars (60 points per $1) at the end of the experiment. 3 points = $0.05; 1 point = $0.0167

8.1.1 Implementation - Study 3

Before running study 3, we updated the original pre-registration for the experiment to include details for studies 1, 2, and 3.[5] We conducted study 3 in May 2024. We recruited 400 participants for study 3 (100 per treatment and control group) through Prolific, and conducted the experiment with Qualtrics Survey Software. Participants had to be U.S.-based, at least 18 years old, and have a 90% or higher approval rating on Prolific to be eligible. Additionally, participants from studies 1 and 2 were not eligible to participate in study 3. We balanced each treatment and control group by political orientation.

[5]RCT ID: AEARCTR-0011571

8.2 Results - Study 3

8.2.1 Descriptive Statistics - Study 3

As in studies 1 and 2, political orientation is balanced among liberals, moderates, and conservatives by construction. The average participant in study 3 is 41 years old, and 61% identify as female. Approximately 60% of participants have at least a 2 year college degree. 67% of the participants identify as White/Caucasian, and 69% identify as religious. Across all treatment and control groups, the average chosen working time is 130 seconds and average efficiency is 9.74 tasks per minute. The distributions of chosen working time and efficiency, broken down by treatment and control group, are shown in Figure A3.

The proportion of participants that choose to work for each charity in the choice treatments are shown in columns (1)-(2) of Table 9. In each of these treatments, a plurality of participants choose to work for St. Jude Children's Research Hospital. While 60% of participants in the unrestricted choice treatment in study 2 choose to work for self and for a political party, this increases to 93% in study 3. This indicates that the list of potential beneficiaries in study 3 includes beneficiaries that are more highly trusted than those in study 2.

8.2.2 Treatment Balance - Study 3

Table 10 compares the means of the demographic variables we collect between the $CONTROL_{LOW}$ group and each of the treatment groups in study 3. Political orientation, age, gender, college degree status, and religious status are balanced between each of the treatments and the $CONTROL_{LOW}$ group. There are significantly less White/Caucasian participants in the *No choice* treatment than in $CONTROL_{LOW}$, and income is significantly lower in the *No choice* and *Choice (restricted)* treatments than in $CONTROL_{LOW}$. As in studies 1 and 2, we control for all of these demographic variables in our analysis. The inclusion of these demographic variables in our regressions does not substantially change our results.

Table 8: Descriptive Statistics, Study 3

	mean	sd	min	max
Liberal	0.33	0.47	0	1
Moderate	0.34	0.47	0	1
Conservative	0.33	0.47	0	1
Age	40.91	13.17	18	76
Female	0.61	0.49	0	1
College degree	0.60	0.49	0	1
White/Caucasian	0.67	0.47	0	1
Religious	0.69	0.46	0	1
Annual Income	5.22	3.21	1	11
Chosen Working Time (in seconds)	130.43	59.67	0	180
Efficiency (tasks per minute)	9.74	3.25	0	16.5
Observations	400			

Notes: Liberal, Moderate, and Conservative are binary variables, collected by Prolific, representing each participant's self-reported political orientation. Age is measured in years. Female is a binary variable that =1 if a participant identifies as female. College degree is a binary variable that =1 if a participant has at least a 2 year college degree. White/Caucasian is a binary variable that =1 if a participant solely identifies as White/Caucasian. Religious is a binary variable that =1 if a participant does not identify as atheist or agnostic. Annual income is measured in $10,000 increments. Chosen working time ranges from 0 to 180 seconds, in 30 second intervals. Since Efficiency (tasks per minute) is undefined for participants whose chosen working time is zero, the summary of efficiency in this table only includes the 395 participants in study 3 whose chosen working time was not zero.

8.2.3 Replicated result from study 2: The ability to choose between beneficiary organizations only matters when there is also freedom to choose to work only for self

To replicate our results from study 2, we use the data from study 3 and compare average effort provision between the control group and the treatment groups involving choice. As shown in Figure 7a and tested in columns (1)-(2) of Table 11, we find a negative average response (as measured by chosen working time) to working for others in all but the unrestricted choice treatment. In column (3) of Table 11, we control for participants' opinions of each of the charities, and still see a negative (but insignificant) response in all but the unrestricted choice treatment.

Table 9: Charity Choices, Study 3

	(1) Restricted Choice Proportion	(2) Unrestricted Choice Proportion
Doctors Without Borders	0.24	0.18
Habitat for Humanity	0.12	0.05
St. Jude Children's Research Hospital	0.43	0.53
The American Red Cross	0.09	0.12
The Make-a-Wish Foundation of America	0.12	0.05
Work only for self	NA	0.07
Observations	100	100

Notes: The proportions in column (1) indicate the proportion of participants in study 3 that choose to work for each of the individual charities. "Work only for self" is not applicable in this treatment, as participants do not have the option to work only for self. The proportions in column (2) indicate the proportion of participants in study 3 that choose to work for each of the individual charities, or to work only for self.

In line with our findings from study 2, having the freedom to choose whether to work for a chosen organization or to work only for self mitigates the negative impact of working for others on effort provision while only having the ability to choose which organization to work for does not mitigate the response. This effect remains even if we only include participants who end up choosing to work for themselves and an organization in the analysis. Although the beneficiaries in study 3 are highly trusted charities, this alone is not enough to overcome the negative response to working for others. Efficiency does not differ between the control group and any of the treatment groups, (see Figure 7b and columns (4)-(6) of Table 11).

Table 10: Treatment Balance, Study 3

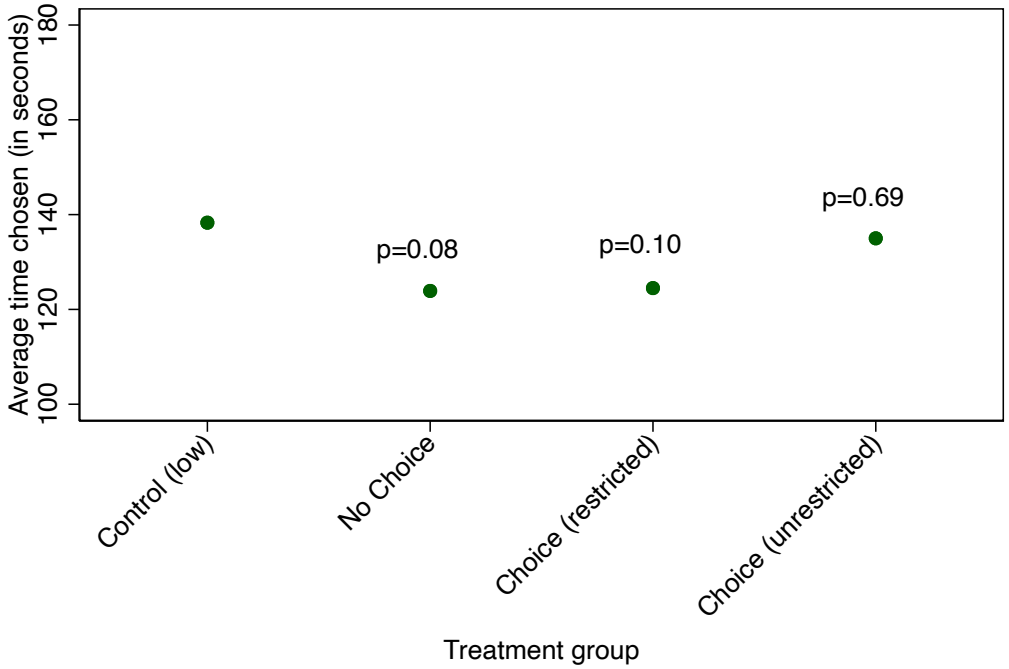
Variable	$CONTROL_{LOW}$	MOST-TRUSTED	$Choice_R$	$Choice_U$
Liberal	0.330	0.340	0.330	0.330
	(0.473)	(0.476)	(0.473)	(0.473)
Moderate	0.340	0.330	0.330	0.340
	(0.476)	(0.473)	(0.473)	(0.476)
Conservative	0.330	0.330	0.340	0.330
	(0.473)	(0.473)	(0.476)	(0.473)
Age	41.100	40.440	41.590	40.490
	(14.336)	(12.499)	(13.476)	(12.437)
Female	0.590	0.600	0.620	0.620
	(0.494)	(0.492)	(0.488)	(0.488)
College degree	0.550	0.610	0.600	0.620
	(0.500)	(0.490)	(0.492)	(0.488)
White/Caucasian	0.760	0.540***	0.740	0.640*
	(0.429)	(0.501)	(0.441)	(0.482)
Religious	0.650	0.740	0.640	0.740
	(0.479)	(0.441)	(0.482)	(0.441)
Annual Income	5.740	4.990*	4.580**	1.112
	(3.480)	(3.173)	(2.757)	(0.658)
Observations	100	100	100	100

* $p < .1$, ** $p < .05$, *** $p < .01$

Notes: Significance levels are based on t-tests comparing the means of the demographic variables between the $CONTROL_{LOW}$ group and each of the other treatment/control groups. Liberal, Moderate, and Conservative are binary variables, collected by Prolific, representing each participant's self-reported political orientation. Age is measured in years. Female is a binary variable that =1 if a participant identifies as female. College degree is a binary variable that =1 if a participant has at least a 2 year college degree. White/Caucasian is a binary variable that =1 if a participant solely identifies as White/Caucasian. Religious is a binary variable that =1 if a participant does not identify as atheist or agnostic. Annual Income is measured in $10,000 increments.

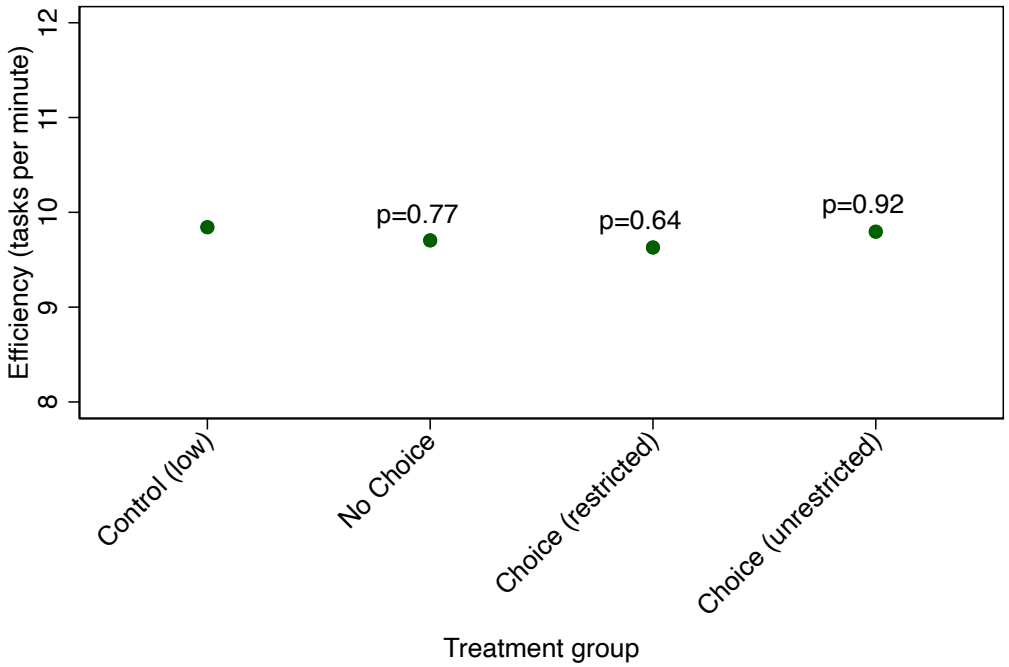
Figure 7: Chosen working time and efficiency, by treatment and control group, Study 3

(a) *Chosen working time*



Notes: p-values based on two-tailed t-tests comparing means between each treatment group and Control (low)

(b) *Efficiency*



Notes: p-values based on two-tailed t-tests comparing means between each treatment group and Control (low)

Table 11: Chosen working time and efficiency, by treatment and control group, Study 3

	(1) Time	(2) Time	(3) Time	(4) Efficiency	(5) Efficiency	(6) Efficiency
No Choice	-14.40*	-13.23	-10.36	-0.139	-0.0121	0.0944
	(8.307)	(8.189)	(8.174)	(0.487)	(0.405)	(0.411)
Choice (restricted)	-13.80*	-15.15*	-11.30	-0.214	-0.195	-0.0430
	(8.348)	(8.171)	(8.246)	(0.459)	(0.368)	(0.377)
Choice (unrestricted)	-3.300	-1.267	0.159	-0.0474	0.192	0.255
	(8.195)	(8.188)	(8.265)	(0.461)	(0.404)	(0.403)
St. Jude Opinion			8.272*			0.388*
			(4.576)			(0.218)
Red Cross Opinion			0.590			-0.0569
			(3.436)			(0.144)
Doctors Without Borders Opinion			3.064			0.129
			(3.650)			(0.186)
Habitat for Humanity Opinion			3.507			0.124
			(4.049)			(0.216)
Make-a-Wish Opinion			-6.499			-0.284
			(4.305)			(0.180)
Constant	138.3***	167.3***	143.0***	9.843***	14.08***	13.20***
	(5.655)	(11.43)	(15.18)	(0.339)	(0.573)	(0.737)
Controls	No	Yes	Yes	No	Yes	Yes
Observations	400	400	400	395	395	395

Robust standard errors in parentheses
* $p < .1$, ** $p < .05$, *** $p < .01$

Notes: This table reports the results of OLS regressions. The dependent variable in columns (1)-(3) is chosen working time, while the dependent variable in columns (4)-(6) is efficiency (tasks per minute). This table includes participants from study 3. The sample size is smaller in columns (4)-(6) than in columns (1)-(3) because efficiency is undefined for those who choose not to work at all. "Controls" include each participant's gender, age, education, race/ethnicity, religious status, annual income, and a binary variable indicating whether the participant completed the experiment on a mobile device. Opinions of the charities range from 0 (worst opinion) to 4 (best opinion). The full results, including the coefficients for the control variables, are shown in Table A4.

8.2.4 Replicated result from studies 1 and 2: Working for others negatively impacts effort provision, regardless of the beneficiary

In study 3, we also replicate the result from studies 1 and 2 that, when no choice is involved, working for others negatively impacts effort provision. As shown in Figure 7a and tested in columns (1)-(3) of Table 11, participants in the *No choice* treatment choose to work significantly less than participants in the control group. Also, as we found in studies 1 and 2, this response is expressed only through variation in chosen working time rather than efficiency. We show this in Figure 7b and test it in columns (4)-(6) of Table 11.

8.3 Discussion - Study 3

Study 3 expands on the findings from studies 1 and 2 by focusing on charitable organizations that are generally perceived positively by the public. This study aims to determine whether the aversion to working for others we find in studies 1 and 2 is due to a general distrust of politically oriented organizations or if it persists even when working for highly trusted charities. The results from Study 3 show there is a negative response to working for others, even when the beneficiaries are highly trusted charitable organizations. This negative response persists when participants have the ability to choose which charity to earn money for. However, in line with the findings from Study 2, the negative response is mitigated when participants have the freedom to choose to work only for themselves or for both themselves and a the charity of their choice.

These findings reinforce the idea that the negative response is a general aversion to working for others, especially when no choice is involved, rather than a specific reaction to certain types of organizations. The ability to choose whether to engage in prosocial work (even if the net wage remains constant) plays a significant role in mitigating this response. The high proportion of participants choosing to work for both themselves and a charity in the unrestricted choice condition suggests that when given the autonomy, many individuals are willing to engage in prosocial work, even if they would exhibit an aversion to enforced

redistribution.

9 Conclusion

Our findings shed light on how people adjust their willingness to work when their earnings benefit others, even when working for others does not decrease net wages. Across a series of three studies, a consistent theme emerges: there is a general aversion to working for others when people are not given a choice about the beneficiary. Even when individuals are given the ability to choose the beneficiary of their work, this aversion persists, unless they also have the option to work only for themselves.

This research highlights the complexity of labor decisions and emphasizes that the salience of taxes and perceived autonomy are among the important determinants of effort provision. The strong negative response to redistribution across various settings suggests that individuals value personal control rather than simply maximizing their labor earnings. Only when participants are granted the freedom to opt out of working for others do we see a mitigation of the negative response, even though most participants who have this choice still choose to work for others.

These findings have significant implications for policymakers aiming to enhance the efficiency of existing systems of taxation and redistribution. First, the persistence of a negative response, regardless of the form of redistribution or the nature of the beneficiary, suggests that public policies involving taxation or charitable giving should carefully consider the psychological costs of perceived coercion and salient taxation. Policies that increase perceived autonomy, such as allowing individuals more choice in how their contributions are used or making tax obligations less salient, could help mitigate some of the reductions in effort provision associated with working for others.

Furthermore, while this study suggests that simply increasing the trustworthiness of beneficiaries does not fully reduce the aversion to working for others, it opens avenues for

further research into how existing forms of redistribution could be reframed to enhance individuals' willingness to contribute. Future research could investigate how varying levels of transparency, reward mechanisms, or alternative forms of compensation might influence labor decisions in contexts involving public goods provision or redistribution. In sum, understanding how to reduce the negative response to working for others plays an important role in ensuring that current redistributive systems operate as efficiently as possible.

References

Alm, James, Gary H McClelland, and William D Schulze (1999). "Changing the social norm of tax compliance by voting". *Kyklos* 52.2, pp. 141–171.

Almås, Ingvild, Alexander W Cappelen, and Bertil Tungodden (2020). "Cutthroat capitalism versus cuddly socialism: Are Americans more meritocratic and efficiency-seeking than Scandinavians?" *Journal of Political Economy* 128.5, pp. 1753–1788.

Andreoni, James and John Miller (2002). "Giving according to GARP: An experimental test of the consistency of preferences for altruism". *Econometrica* 70.2, pp. 737–753.

Ariely, Dan, Anat Bracha, and Stephan Meier (2009). "Doing good or doing well? Image motivation and monetary incentives in behaving prosocially". *American Economic Review* 99.1, pp. 544–555.

Bartling, Björn, Ernst Fehr, and Holger Herz (2014). "The intrinsic value of decision rights". *Econometrica* 82.6, pp. 2005–2039.

Bhattacharya, Puja and Johanna Mollerstrom (2023). "Lucky to Work". 22.46.

Brunner, Eric J, Mark D Robbins, and Bill Simonsen (2021). "Experimental evidence about property tax word aversion". *Public Budgeting & Finance* 41.4, pp. 50–70.

Cabral, Marika and Caroline Hoxby (2012). "The hated property tax: salience, tax rates, and tax revolts". *National Bureau of Economic Research*.

Cappelen, Alexander W, Ingar K Haaland, and Bertil Tungodden (2018). "Beliefs about behavioral responses to taxation". *Unpublished manuscript. Norwegian School of Economics, Bergen*.

Charness, Gary and Matthew Rabin (2002). "Understanding social preferences with simple tests". *The Quarterly Journal of Economics* 117.3, pp. 817–869.

Chetty, Raj, Adam Looney, and Kory Kroft (2009). "Salience and taxation: Theory and evidence". *American Economic Review* 99.4, pp. 1145–1177.

Deci, Edward L and Richard M Ryan (1985). "The general causality orientations scale: Self-determination in personality". *Journal of research in personality* 19.2, pp. 109–134.

Deci, Edward L and Richard M Ryan (2000). "Intrinsic and extrinsic motivations: Classic definitions and new directions". *Contemporary educational psychology* 25.1, pp. 54–67.

Durante, Ruben, Louis Putterman, and Joël Van der Weele (2014). "Preferences for redistribution and perception of fairness: An experimental study". *Journal of the European Economic Association* 12.4, pp. 1059–1086.

Fehr, Ernst and Klaus M Schmidt (1999). "A theory of fairness, competition, and cooperation". *The Quarterly Journal of Economics* 114.3, pp. 817–868.

Finkelstein, Amy (2009). "E-ztax: Tax salience and tax rates". *The Quarterly Journal of Economics* 124.3, pp. 969–1010.

Fochmann, Martin et al. (2013). "Net wage illusion in a real-effort experiment". *The Scandinavian Journal of Economics* 115.2, pp. 476–484.

Freundt, Jana, Holger Herz, and Leander Kopp (2023). "Intrinsic preferences for autonomy". *CESifo Working Paper*.

Gee, Laura K, Marco Migueis, and Sahar Parsa (2017). "Redistributive choices and increasing income inequality: experimental evidence for income as a signal of deservingness". *Experimental Economics* 20, pp. 894–923.

Hufe, Paul, Ravi Kanbur, and Andreas Peichl (2022). "Measuring unfair inequality: Reconciling equality of opportunity and freedom from poverty". *The Review of Economic Studies* 89.6, pp. 3345–3380.

IUPUI, Lilly Family School of Philanthropy (Apr. 2023). *What Americans think about philanthropy and nonprofits*.

Kajackaite, Agne (2015). "If I close my eyes, nobody will get hurt: The effect of ignorance on performance in a real-effort experiment". *Journal of Economic Behavior & Organization* 116, pp. 518–524.

Keane, Michael P (2011). "Labor supply and taxes: A survey". *Journal of Economic Literature* 49.4, pp. 961–1075.

Keser, Claudia, David Masclet, and Claude Montmarquette (2020). "Labor Supply, Taxation, and the Use of Tax Revenues: A Real-Effort Experiment in Canada, France, and Germany". *Public Finance Review* 48.6, pp. 714–750.

Kessler, Judd B, Katherine L Milkman, and C Yiwei Zhang (2019). "Getting the rich and powerful to give". *Management Science* 65.9, pp. 4049–4062.

Kessler, Judd B and Michael I Norton (2016). "Tax aversion in labor supply". *Journal of Economic Behavior & Organization* 124, pp. 15–28.

Lamberton, Cait (2013). "A spoonful of choice: How allocation increases satisfaction with tax payments". *Journal of Public Policy & Marketing* 32.2, pp. 223–238.

Lefgren, Lars J, David P Sims, and Olga B Stoddard (2016). "Effort, luck, and voting for redistribution". *Journal of Public Economics* 143, pp. 89–97.

Lehmann, Etienne, François Marical, and Laurence Rioux (2011). "Labor earnings respond differently to income-tax and to payroll-tax reforms".

Li, Sherry Xin, Catherine Eckel, et al. (2015). "Directed giving enhances voluntary giving to government". *Economics Letters* 133, pp. 51–54.

Li, Sherry Xin, Catherine C Eckel, et al. (2011). "Giving to government: Voluntary taxation in the lab". *Journal of Public Economics* 95.9-10, pp. 1190–1201.

Meemann, Christine (2023). "On the economic value of decision rights: An experimental test". PhD thesis. Universitätsbibliothek der HSU/UniBwH.

Mollerstrom, Johanna, Avner Strulov-Shlain, and Dmitry Taubinsky (2022). "Preferences for Giving Versus Preferences for Redistribution". 2021.117.

Nussbaum, Martha C (2000). *Women and human development: The capabilities approach*. Vol. 3. Cambridge university press.

Rabin, Matthew (1993). "Incorporating fairness into game theory and economics". *American Economic Review*, pp. 1281–1302.

Sausgruber, Rupert, Axel Sonntag, and Jean-Robert Tyran (2021). "Disincentives from redistribution: Evidence on a dividend of democracy". *European Economic Review* 136, p. 103749.

Sausgruber, Rupert and Jean-Robert Tyran (2005). "Testing the Mill hypothesis of fiscal illusion". *Public Choice* 122.1-2, pp. 39–68.

Sen, Amartya (1988). "Freedom of choice: concept and content". *European economic review* 32.2-3, pp. 269–294.

Sutter, Matthias and Hannelore Weck-Hannemann (2003). "Taxation and the Veil of Ignorance–A real effort experiment on the Laffer curve". *Public Choice* 115.1-2, pp. 217–240.

Taylor, James Stacey (2005). *Personal autonomy: New essays on personal autonomy and its role in contemporary moral philosophy*. Cambridge University Press.

Vugts, Anastasia et al. (2020). "How autonomy is understood in discussions on the ethics of nudging". *Behavioural Public Policy* 4.1, pp. 108–123.

Young, Robert (1982). "The value of autonomy". *The Philosophical Quarterly (1950-)* 32.126, pp. 35–44.

A Tables and Figures

Table A1: Chosen working time and efficiency, by treatment and control group, Study 1

	Time	Time	Efficiency	Efficiency
Control (high)	-5.700	-4.934	-0.543	-0.762**
	(8.108)	(8.364)	(0.400)	(0.356)
U.S. Government	-23.10***	-21.16**	-0.521	-0.395
	(8.269)	(8.342)	(0.419)	(0.355)
ACLU	-21.90***	-20.12**	-0.452	-0.420
	(8.468)	(8.554)	(0.390)	(0.338)
Heritage Foundation	-19.20**	-17.70**	0.246	0.188
	(8.673)	(8.839)	(0.361)	(0.317)
Democratic Party	-23.70***	-22.15**	-0.221	-0.373
	(8.435)	(8.578)	(0.398)	(0.337)
Republican Party	-17.40**	-16.00*	-0.271	-0.315
	(8.570)	(8.663)	(0.409)	(0.338)
Female		4.070		-0.0710
		(4.845)		(0.189)
Age		-0.426**		-0.0754***
		(0.182)		(0.00655)
College degree		5.687		0.0326
		(5.240)		(0.197)
White/Caucasian		3.161		0.437*
		(5.529)		(0.236)
Religious		3.171		-0.577***
		(5.389)		(0.209)
Annual Income		-0.513		0.0580*
		(0.818)		(0.0346)
Mobile device		-5.252		-3.351***
		(6.529)		(0.237)
Constant	147.6***	158.6***	10.42***	14.05***
	(5.422)	(10.49)	(0.252)	(0.396)
Observations	700	700	660	660

Robust standard errors in parentheses
* $p < .1$, ** $p < .05$, *** $p < .01$

Notes: This table reports the results of OLS regressions. The dependent variable in columns (1)-(2) is chosen working time, while the dependent variable in columns (3)-(4) is efficiency (tasks per minute). This table includes participants from study 1. The sample size is smaller in columns (3)-(4) than in columns (1)-(2) because efficiency is undefined for those who choose not to work at all. Age is measured in years. Female is a binary variable that =1 if a participant identifies as female. College degree is a binary variable that =1 if a participant has at least a 2 year college degree. White/Caucasian is a binary variable that =1 if a participant solely identifies as White/Caucasian. Religious is a binary variable that =1 if a participant does not identify as atheist or agnostic. Annual income is measured in $10,000 (USD) increments. Mobile device is a binary variable that =1 if a participant completed the experiment on a mobile device.

Table A2: Chosen working time and efficiency, by opinion of beneficiary organization, Study 1

	(1) Time	(2) Time	(3) Efficiency	(4) Efficiency
Opinion of beneficiary	6.279**	6.795***	-0.155	-0.0943
	(2.469)	(2.464)	(0.123)	(0.107)
Female		6.592		0.0480
		(5.801)		(0.222)
Age		-0.682***		-0.0777***
		(0.218)		(0.00811)
College degree		3.064		-0.0657
		(6.352)		(0.231)
White/Caucasian		1.414		0.620**
		(6.608)		(0.279)
Religious		4.105		-0.634**
		(6.556)		(0.249)
Annual Income		-0.793		0.0524
		(0.966)		(0.0410)
Mobile device		-7.128		-3.342***
		(7.708)		(0.264)
Constant	117.2***	143.3***	10.41***	13.97***
	(4.954)	(12.06)	(0.237)	(0.463)
Observations	500	500	466	466

Standard errors in parentheses

* $p < .1$, ** $p < .05$, *** $p < .01$

Notes: This table reports the results of OLS regressions. The dependent variable in columns (1)-(2) is chosen working time, while the dependent variable in columns (3)-(4) is efficiency (tasks per minute). This table includes participants in the treatment groups from study 1. The sample size is smaller in columns (3)-(4) than in columns (1)-(2) because efficiency is undefined for those who choose not to work at all. Age is measured in years. Female is a binary variable that =1 if a participant identifies as female. College degree is a binary variable that =1 if a participant has at least a 2 year college degree. White/Caucasian is a binary variable that =1 if a participant solely identifies as White/Caucasian. Religious is a binary variable that =1 if a participant does not identify as atheist or agnostic. Annual income is measured in $10,000 (USD) increments. Mobile device is a binary variable that =1 if a participant completed the experiment on a mobile device.

Table A3: Chosen working time and efficiency, by treatment and control group, Study 2

	(1) Time	(2) Time	(3) Time	(4) Efficiency	(5) Efficiency	(6) Efficiency
Democratic Party	-14.70*	-13.38*	-12.67	-0.532	-0.302	-0.283
	(8.317)	(8.004)	(8.003)	(0.444)	(0.341)	(0.345)
Republican Party	-13.80	-15.74*	-15.29*	-0.973**	-0.985***	-0.937***
	(8.495)	(8.355)	(8.425)	(0.431)	(0.365)	(0.362)
Choice (restricted)	-23.40***	-25.17***	-25.23***	-0.412	-0.359	-0.363
	(8.521)	(8.161)	(8.125)	(0.407)	(0.324)	(0.323)
Choice (unrestricted)	-6.300	-6.482	-6.265	-0.547	-0.448	-0.413
	(7.877)	(7.579)	(7.551)	(0.412)	(0.311)	(0.309)
Female		10.33*	9.806*		-0.0245	0.0102
		(5.395)	(5.413)		(0.226)	(0.231)
Age		-0.0747	-0.0702		-0.0765***	-0.0760***
		(0.210)	(0.210)		(0.00862)	(0.00864)
College degree		-6.273	-7.135		0.346	0.355
		(5.835)	(5.888)		(0.241)	(0.246)
White/Caucasian		2.269	2.927		0.606**	0.580**
		(5.972)	(6.019)		(0.262)	(0.268)
Religious		-1.329	1.566		-0.634***	-0.562**
		(5.713)	(5.923)		(0.241)	(0.249)
Annual Income		-2.236**	-2.055**		-0.00969	-0.00280
		(0.897)	(0.909)		(0.0387)	(0.0394)
Mobile device		-29.24***	-28.95***		-3.294***	-3.291***
		(6.757)	(6.739)		(0.265)	(0.265)
Opinion of the Democratic Party			1.096			-0.0952
			(2.426)			(0.111)
Opinion of the Republican Party			-4.048			-0.185*
			(2.499)			(0.111)
Constant	144.6***	165.7***	165.9***	10.41***	14.08***	14.32***
	(5.417)	(9.673)	(10.49)	(0.288)	(0.431)	(0.483)
Observations	500	500	500	484	484	484

Robust standard errors in parentheses
* $p < .1$, ** $p < .05$, *** $p < .01$

Notes: This table reports the results of OLS regressions. The dependent variable in columns (1)-(3) is chosen working time, while the dependent variable in columns (4)-(6) is efficiency (tasks per minute). This table includes participants from study 2. The sample size is smaller in columns (4)-(6) than in columns (1)-(3) because efficiency is undefined for those who choose not to work at all. Age is measured in years. Female is a binary variable that =1 if a participant identifies as female. College degree is a binary variable that =1 if a participant has at least a 2 year college degree. White/Caucasian is a binary variable that =1 if a participant solely identifies as White/Caucasian. Religious is a binary variable that =1 if a participant does not identify as atheist or agnostic. Annual income is measured in $10,000 (USD) increments. Mobile device is a binary variable that =1 if a participant completed the experiment on a mobile device. Opinions of the Democratic and Republican parties range from 0 (worst opinion) to 4 (best opinion).

Table A4: Chosen working time and efficiency, by treatment and control group, Study 3

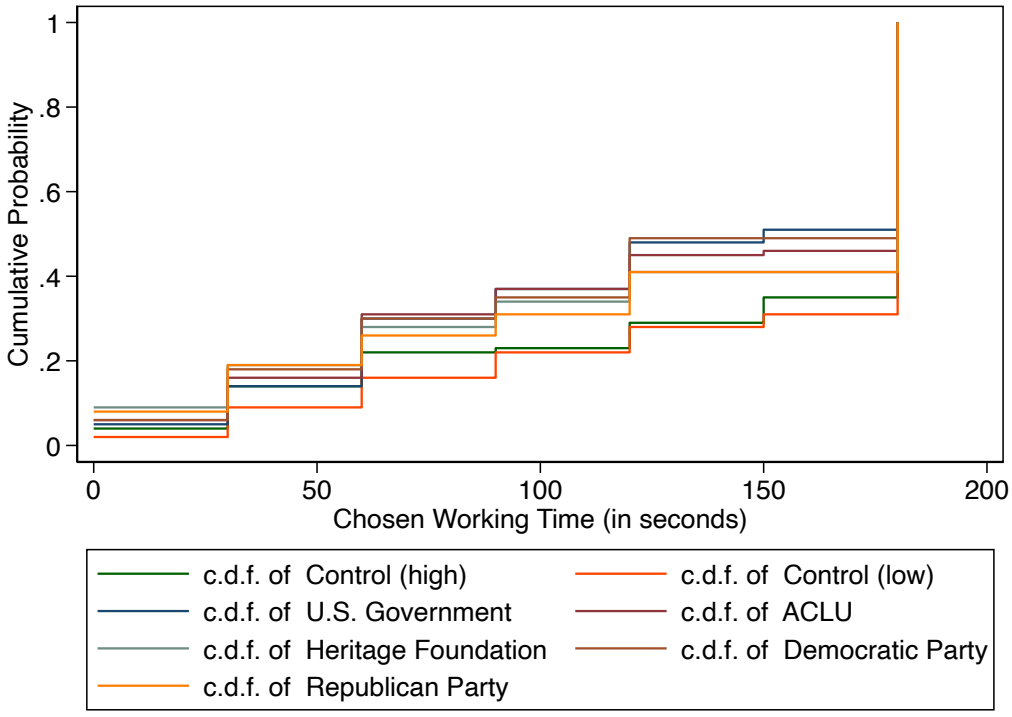
	(1) Time	(2) Time	(3) Time	(4) Efficiency	(5) Efficiency	(6) Efficiency
No Choice	-14.40*	-13.23	-10.36	-0.139	-0.0121	0.0944
	(8.307)	(8.189)	(8.174)	(0.487)	(0.405)	(0.411)
Choice (restricted)	-13.80*	-15.15*	-11.30	-0.214	-0.195	-0.0430
	(8.348)	(8.171)	(8.246)	(0.459)	(0.368)	(0.377)
Choice (unrestricted)	-3.300	-1.267	0.159	-0.0474	0.192	0.255
	(8.195)	(8.188)	(8.265)	(0.461)	(0.404)	(0.403)
Female		-2.753	-3.107		-0.389	-0.396
		(6.169)	(6.138)		(0.289)	(0.288)
Age		-0.302	-0.428*		-0.0774***	-0.0823***
		(0.238)	(0.242)		(0.0112)	(0.0113)
College degree		3.318	2.709		0.0834	0.0517
		(6.232)	(6.293)		(0.275)	(0.277)
White/Caucasian		6.177	5.422		1.001***	0.961***
		(6.661)	(6.701)		(0.314)	(0.327)
Religious		-17.56***	-16.71**		-1.168***	-1.135***
		(6.339)	(6.641)		(0.289)	(0.305)
Annual Income		-1.072	-0.900		0.0138	0.0247
		(0.977)	(0.987)		(0.0429)	(0.0424)
Mobile device		-11.93*	-11.66*		-2.879***	-2.868***
		(6.302)	(6.285)		(0.283)	(0.284)
St. Jude Opinion			8.272*			0.388*
			(4.576)			(0.218)
Red Cross Opinion			0.590			-0.0569
			(3.436)			(0.144)
Doctors Without Borders Opinion			3.064			0.129
			(3.650)			(0.186)
Habitat for Humanity Opinion			3.507			0.124
			(4.049)			(0.216)
Make-a-Wish Opinion			-6.499			-0.284
			(4.305)			(0.180)
Constant	138.3***	167.3***	143.0***	9.843***	14.08***	13.20***
	(5.655)	(11.43)	(15.18)	(0.339)	(0.573)	(0.737)
Observations	400	400	400	395	395	395

Robust standard errors in parentheses
* $p < .1$, ** $p < .05$, *** $p < .01$

Notes: This table reports the results of OLS regressions. The dependent variable in columns (1)-(3) is chosen working time, while the dependent variable in columns (4)-(6) is efficiency (tasks per minute). This table includes participants from study 3. The sample size is smaller in columns (4)-(6) than in columns (1)-(3) because efficiency is undefined for those who choose not to work at all. Age is measured in years. Female is a binary variable that =1 if a participant identifies as female. College degree is a binary variable that =1 if a participant has at least a 2 year college degree. White/Caucasian is a binary variable that =1 if a participant solely identifies as White/Caucasian. Religious is a binary variable that =1 if a participant does not identify as atheist or agnostic. Annual income is measured in $10,000 (USD) increments. Mobile device is a binary variable that =1 if a participant completed the experiment on a mobile device. Opinions of the charities range from 0 (worst opinion) to 4 (best opinion).

Figure A1: Distribution of chosen working time and efficiency, by treatment and control group, Study 1

(a) *Chosen working time*



(b) *Efficiency*

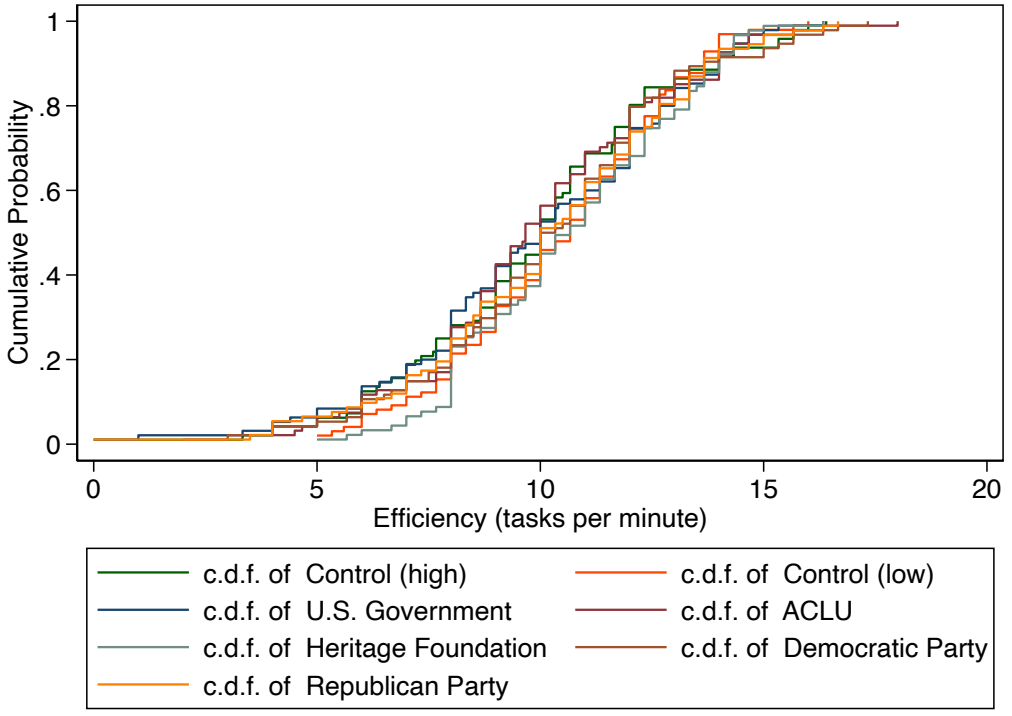
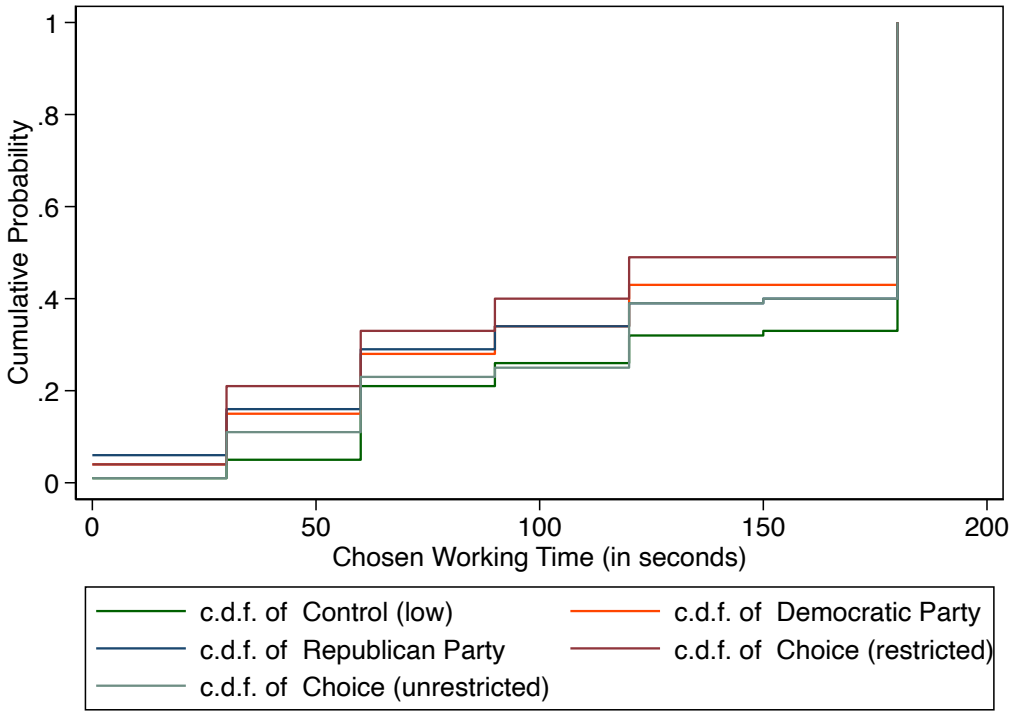


Figure A2: Distribution of chosen working time and efficiency, by treatment and control group, Study 2

(a) *Chosen working time*



(b) *Efficiency*

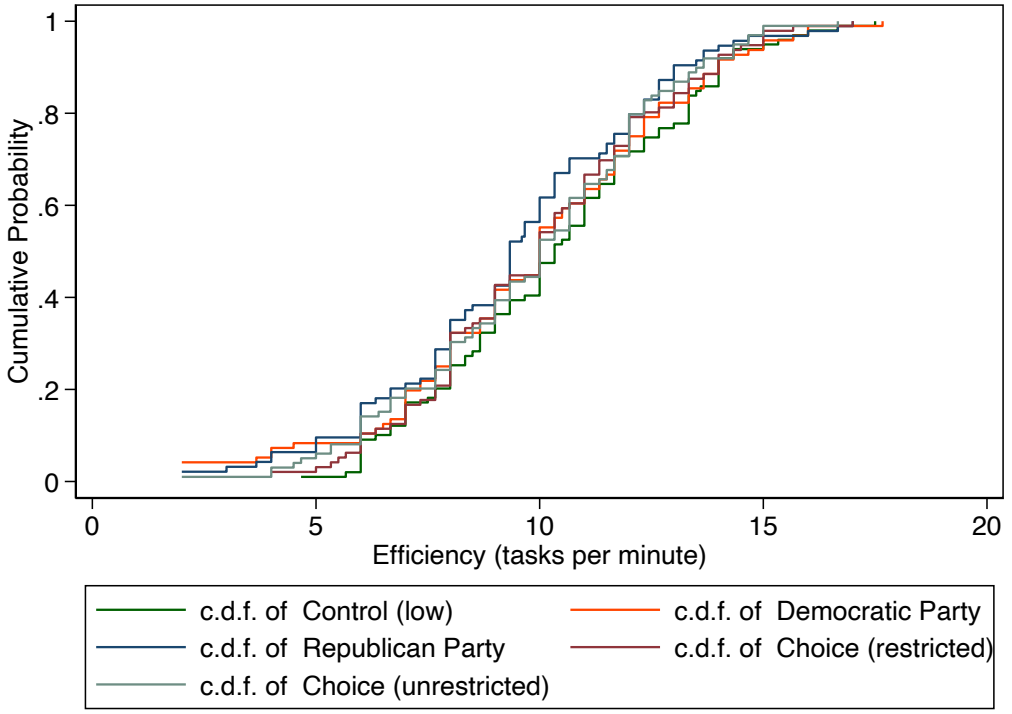
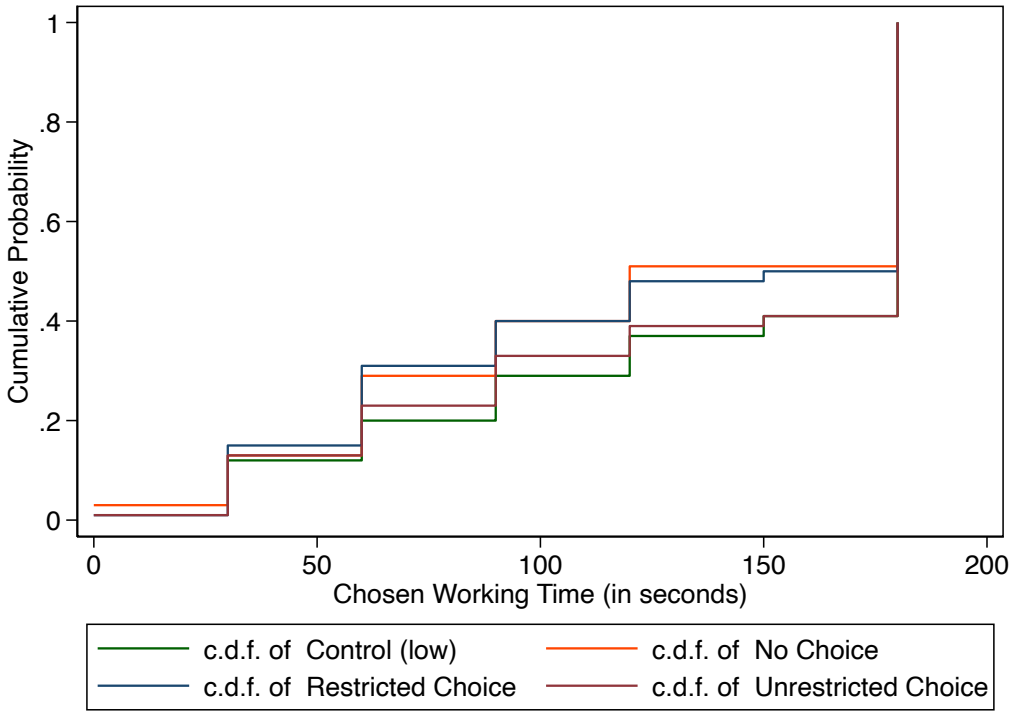


Figure A3: Distribution of chosen working time and efficiency, by treatment and control group, Study 3

(a) *Chosen working time*



(b) *Efficiency*