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DISCUSSION PAPER

// MARIUS ALT

Better Us Later Than Me Now – Regulatee-Size and Time-Inconsistency as Determinants of Demand for Environmental Policies

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Better us later than me now

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Regulatee-size and time-inconsistency as determinants of demand for environmental policies

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Abstract

To adequately design and implement effective environmental policies, it is paramount for policymakers to understand preferences for regulatory instruments as well as their individual level determinants. In this study, I experimentally investigate the demand for three environmental policies, comprising nudges, monetary incentives, and punishments. I elicit the demand for these interventions through decisions in a pro-environmental real effort task. The experiment introduces exogenous variation along two dimensions to analyze, whether interventions are (1) demanded as commitment devices to commit to future pro-environmental behavior, and (2) how demand changes when regulation affects not only the self but also others. The results show that a large fraction of individuals demands regulation, which is, however, heterogeneously distributed across participants, being dependent on individual characteristics. Moreover, particularly participants who are sophisticated about their time-inconsistent prosocial preferences demand interventions to commit to pro-environmental behavior. When the intervention is also imposed on other participants, this leads to an increase in the demand, driven by conditionally cooperative individuals who are not averse to constraining others' behavior. Finally, I provide evidence that the experimentally elicited demand for interventions can serve as a predictor of preferences for actual environmental policies.

JEL classification: Q58, D04, C91

Keywords: Pro-environmental behavior, Nudges, Economic incentives, Real effort

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1 Introduction

The implementation and success of environmental policies critically hinge on public approval (Douenne and Fabre 2020; Van der Horst 2007). As an example, in 2018, a countrywide opposition movement formed in France protesting against the implementation of an environmental tax on fuel, which resulted in the French government abandoning the proposal (Kipfer 2019). This and related cases underline the importance of providing insights on the formation of approval for environmental policies by understanding its drivers and underlying cognitive processes.

Plenty of research provides evidence on the supply side of environmental policies (Buckley 2020; Maki et al. 2016), however, evidence on the demand side remains scarce (e.g., Pedersen et al. 2014). This paper intends to fill this gap and contributes to a better understanding of the demand for environmental policies. At the first glance, a positive demand for environmental regulation represents a paradox. Environmental policies constrain individual behavior and provide only marginal individual expected returns from contributions to an environmental public good which often occur in the far future. However, plausible reasons exist, that can explain a positive demand for environmental policies (Moosa and Ramiah 2014; Bento et al. 2015; Zhong et al. 2021).

In this study, I analyze three possible channels of deriving utility from environmental regulation; direct benefits from the regulatory tool itself, benefits through commitment to pro-environmental behavior, and benefits through enhanced compliance of other individuals.

Direct benefits from regulation can occur in the form of monetary benefits or non-monetary benefits from behaving pro-environmentally. The magnitude of these benefits likely depends on individual preferences like loss aversion, risk aversion, or image concerns.

Commitment benefits of regulation are realized by a reduction of cognitive dissonance, i.e., commitment enables a consistent degree of pro-environmental behavior across time. If not being corrected for, time-inconsistent behavior leads to the widely observed 'intention-behavior gap', meaning that individuals fail to comply with their pro-environmental preferences (e.g., Cooke and Sheeran 2004; Kollmuss and Agyeman 2002; Carrington et al. 2014; Auger and Devinney 2007). To avoid this, individuals engage in different coping strategies (Momsen and Ohndorf 2020; Momsen et al. 2020). Since environmental regulation binds individuals to a certain behavior, they can act as commitment devices (Bryan et al. 2010). Thus, committing to pro-environmental behavior through demanding regulation could represent one of these strategies.

Lastly, effective environmental regulation entails the benefit that also other individuals behave more environmentally friendly. The respective behavioral change of others are of no cost to the individual but implements an increasing degree of reciprocal fairness by ensuring a compa-

rably high level of environmental effort of each regulatee (Carlsson et al. 2013; Gampfer 2014).

This study uses a threefold approach to assess the different influences of possible benefits of environmental policies and how they translate into preferences for environmental regulation. First, I analyze drivers of individual differences in the demand for three distinct environmental regulatory measures. Second, I investigate whether environmental regulation is partly demanded as a commitment device for pro-environmental behavior. Third, I assess how the demand for environmental regulation changes with increases in the number of other individuals being regulated.

So far, studies investigating the preferences of individuals for policy measures have pointed to several possible drivers of demand. For instance, there exists evidence that attitudes toward paternalism represent a mediator of the approval for regulation. Pedersen et al. (2014) conducted a survey among Danish students inquiring the approval towards nudges. They find that attitudes towards paternalism influence the approval rates, highlighting the role of participants' self-control capacities, as those students who report higher degrees of self-control are also having stronger preferences for paternalistic measures. Ambuehl et al. (2021) find similar results, confirming experimentally that individuals who are less time-inconsistent are more prone to intervene in time-inconsistent monetary choices of others. Treger (2021) finds a willingness of individuals for having their behavior constrained by a regulator. The author uses a discrete choice experiment to show that in certain policy fields a significant share of individuals prefers coercive paternalism over libertarian measures. Similar to the literature that compares different regulatory measures, another strand of literature analyzes the preferences of participants in the design of single policies. For instance, in an international survey, Sunstein et al. (2019) investigate the approval of 15 nudges across different policy fields. They find that a large majority of respondents support the implementation of nudges, with trust in institutions being a mediator of approval rates. Nocella et al. (2014) analyzed the individual demand for information on food implemented in varying institutions. They show that the willingness to pay for information provided by consumer associations is dependent on the respective institution issuing such information. Lastly, Friedrich (2021) analyzes the public approval for the implementation of a tax for single-use plastic in Germany. He finds that 73 percent of participants are in favor of this proposal independent of environmental awareness and own plastic avoidance efforts.

This study uses an online experiment to measure the demand for different pro-environmental policies and precisely identify the individual level drivers that influence demand. Relying on a wide range of regulatory measures that already exist (Shogren 2012; Weersink et al. 1998), this study provides a more comprehensive perspective on the demand for certain features of these measures. Therefore, in an online experiment with 403 participants, I expand on insights from previous studies by analyzing the demand for various regulatory devices, by providing an en-

dogenous choice to participants to implement a nudge, a monetary incentive, or a punishment within the pro-environmental real-effort task. At the beginning of the experiment, participants are provided with the option to convey their preferences on different pro-environmental interventions in an incentive-compatible process. Afterwards, in dependence of the elicited preferences for interventions, one intervention is selected and implemented in the pro-environmental real-effort task. In addition to the aggregate demand for environmental regulation, this study provides a deeper understanding of the individual characteristics that determine preferences for these different types of environmental regulations.

The paper's second major contribution to the literature is to provide insights on two cognitive processes that affect how demand for interventions translates into policy preferences. For this matter, I analyze possible shifts in demand for pro-environmental interventions along a time and a regulatee size dimension. I investigate this experimentally by two exogenous treatment variations assessing time and regulatee size effects on the demand for pro-environmental regulation in a 2x2 full factorial design. At the time dimension, I assess whether individuals use interventions as commitment devices for pro-environmental behavior. A time gap between the decision about interventions and the performance of pro-environmental behavior enables a distinction between the decisions of a present-self and a future-self, i.e., I vary whether the pro-environmental task takes place on the day of the decision on the interventions or with a delay of a week. Given an individual is sophisticated about the own time-inconsistent behavior, this allows the present-self to commit the future-self to a certain degree of pro-environmental behavior. If this variation along the time dimension influences the demand for interventions, timing might be an important factor in obtaining public approval for environmental policies. On the regulatee size dimension, I distinguish between regulation on only oneself and regulation on oneself and other group members. Hence, participants state their preferences for interventions that only affect themselves, themselves and one other person, or themselves and three other participants. Thereby, I assess the consideration of others in the formation of preferences for environmental policies. For instance, interventions assure a certain degree of effort provision by individuals and therefore, entail the benefit of implementing reciprocal fairness in contributing to an environmental cause (Carlsson et al. 2013; Gampfer 2014).

At the end of the experiment, I inquire participants' actual environmental policy preferences in different policy domains. Given these responses, I am able to analyze to which degrees the experimentally elicited demand for the interventions are capable of predicting actual environmental policy preferences. Furthermore, based on the treatment differences along the time and regulatee size dimension, I can assess how preferences for actual environmental policy are influenced by the implementation time and the possibility to regulate others' behavior. Consequently, this provides insights into the underlying cognitive processes of preference formation regarding

environmental policies.

With regard to the demand for pro-environmental interventions, I find a significant willingness to voluntarily constrain the own pro-environmental behavior with the highest demand for nudges and monetary incentives. The analysis of drivers of the demand shows a large heterogeneity in intervention choices depending on individual attitudes. Confidence, altruism, and self-control capacity are identified as strong predictors of demand for certain pro-environmental interventions. Concerning the exogenous treatment variation, the effects on the time dimension reveal that a non-negligible share of participants, indeed, use interventions as commitment devices. Participants, who are aware that they generally behave less prosocially than intended, demand more interventions if the pro-environmental task is postponed to a later date. On the regualtee size dimension, I find that demand tends to increase with regulatee size, being driven by paternalistic conditional cooperators. By matching the results to stated preferences on actual environmental policies, I provide evidence that the demand for interventions in the experiment is able to explain significant parts of the preferences on actual environmental policies.

The paper is structured as follows: Section 2 introduces the design of the experiment, provides testable predictions, and explains the experimental procedure. Section 3 presents the main findings, and Section 4 concludes.

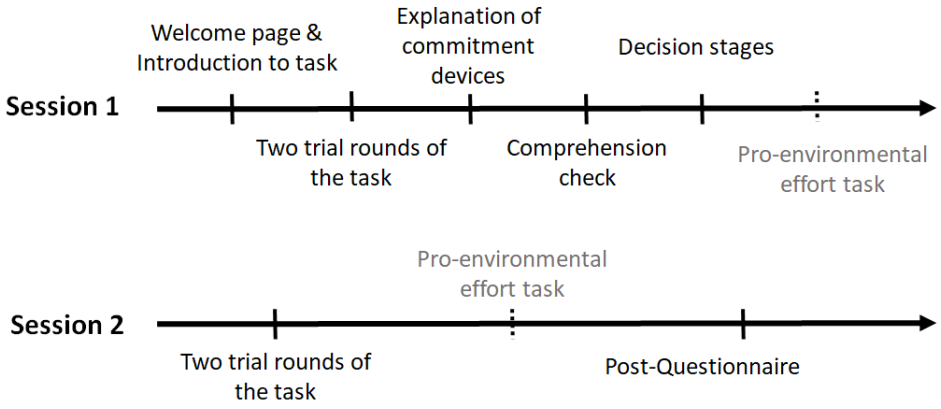
2 Design & Procedure

The experiment is designed to examine participants' decisions on interventions in a decoding task containing a pro-environmental outcome. As interventions, each participant is able to choose between no intervention, a social comparison nudge, a monetary incentive, and a punishment scheme. I introduce exogenous variation to the decision on interventions across two dimensions. Firstly, the timing of the pro-environmental task is varied between treatments. In particular, participants took part in two experimental sessions, which are a week apart from each other. The decision on the interventions and the completion of the pro-environmental task took place either in the same week or a week apart from each other. Secondly, I alter the regulatee size as participants decide on interventions either only for themselves or for themselves and one additional or three additional participants. Section 2 is structured as follows: Section 2.1 introduces the core structure of the experiment, Section 2.2 describes the decoding task in more details, Section 2.3 discusses the different interventions and the respective decision procedure; Section 2.4 explains the treatment variations across the time and the regulatee size dimensions, and Section 2.6 provides information on the sample and attrition.

2.1 Structure of the experiment

Figure 1 provides an overview of the experiment's core structure. The experiment consists of two sessions, Session 1 and Session 2, taking place a week apart from each other. In Session 1, participants obtain information about the procedure of the experiment and the real-effort task. Thereafter, the participants play two rounds of the effort task to familiarize themselves with the task. This is followed by a description of the interventions. To assure comprehension, the provided information is subsequently inquired through control questions. In the decision stages, I elicit participants' preferences on the interventions in an incentive-compatible procedure. Depending on the time dimension treatment, participants either complete the selected modification of the pro-environmental effort task directly thereafter in Session 1 or the conduction of the pro-environmental task is delayed by a week to Session 2. Session 2 begins with two trial rounds of the effort task. Subsequently, participants either conduct the pro-environmental effort task or are forwarded to the post-questionnaire, depending on the treatment assignment.

Figure 1: Timeline of experiment

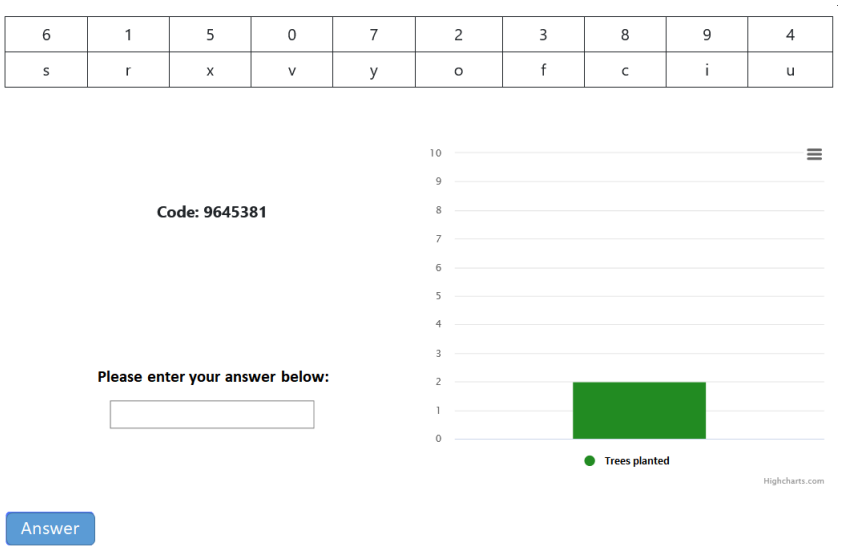


2.2 The pro-environmental effort task

Similar to Dorner (2019), each pro-environmental effort task (PEET) involves decoding an eight-digit code, which must be translated into letters by means of a translation table. Figure 2 shows a screenshot of the effort task. At the top of the screen, a table with ten digits corresponding to ten letters is provided to the participants. They are asked to use the table to translate the eight-digit code, which is provided in the middle of the screen into an array of eight letters. Participants enter their answer in the field provided at the bottom of the page and confirm by clicking on the answer button. Prior to the task, participants are informed that three correctly translated

codes would result in a donation to an afforestation project, which suffices to finance planting a tree within the project.[1] At any time, participants are able to track their pro-environmental contributions displayed by the progress bar, which is shown on the right-hand side. Participants have eight minutes in total to work on the tasks.

Figure 2: The decoding task



2.3 Interventions and decision process

To analyze participants' demand for the interventions in the PEET, I elicit participants' preferences for a purely voluntary scheme and the three interventions prior to the conduction of the PEET. The set of interventions is designed to reflect the common economic toolbox of environmental policies ranging from liberal to hard paternalism (Thaler and Sunstein 2003). It comprises a social comparison, a monetary incentive, and a punishment scheme (Sunstein and Reisch 2014). A brief description of the particular features of the different interventions, as well as the purely voluntary scheme, is provided in Table 1.

2.3.1 The interventions

The 'Voluntary Scheme' represents the version of the PEET, in which interventions are absent. It solely provides participants with the opportunity to decode as many codes as they prefer within the eight minutes of the PEET. Hence, their performance has no consequences for the payoff and no social information on the performance of others is provided.

[1] Details regarding the afforestation project are provided in the Supplementary Material 1.3

Table 1: Overview of interventions participants were stating their preferences for

Versions of the PEET	Performance comparison	Consequences for own payoff
Voluntary Scheme	None	None
Social Comparison	Comparison with avg. performance and top 25%	None
Monetary Incentive	None	- deduction of 5€ from part. fee - 0.25€ reward for solved task - gain of 7.5€ max
Punishment	None	- Loss of 5€ if solving less than 10 decoding tasks

The intervention 'Social Comparison' represents a subtle intervention, which has no material consequences on the payoff of participants. By providing real-time feedback on the participants' relative performance, it aims to update participants' beliefs on the social norm of the appropriate level of effort provision for the sake of an environmental cause. On a permanent basis throughout the PEET, participants' performance is compared to the average performance of the whole sample of other participants and the average of the best performing 25 percent of participants.[2] The relative performance feedback is provided via two additional progress bars showing the performance of the upper 25th percentile and the average performance. In addition, emoticons indicated the relative performance by a happy, neutral or frowny face.[3]

The intervention 'Monetary incentive' induces participants' effort as each correctly solved task is rewarded with an additional monetary payment of 0.25€. Participants, for whom this intervention becomes relevant, enter the task with a 5€ lower participation fee and can earn a maximum additional amount of 7.50€. [4] During the PEET, participants are able to follow the aggregated amount of obtained earnings by an additional progress bar in the graph displaying the monetary reward.[5]

In the 'Punishment' intervention participants receive a fine of five euros if they solve less than

[2]The performance comparisons are obtained from a pilot of this study.

[3]The performance feedback is depicted in Figure B3 in Appendix B. The emoticons indicated the following: whether participants' performance is within the best-performing 25% with a happy face; between the average and best-performing 25% with a neutral face; and below the average with a frowny face. The performance feedback is constructed similar to the established format of performance feedback on electricity consumption within the home energy reports, e.g., in Allcott (2011)

[4]This implies that participants are worse off with this intervention compared to the 'Voluntary Scheme' if they solve less than 20 decoding tasks and better off vice versa. In order to obtain a sense of the feasibility of solving 20 tasks within the eight minutes prior to the PEET, participants are provided with the information that participants in the pilot session solved, on average, 20 tasks within eight minutes.

[5]The progress bars displayed in 'Monetary incentive' are provided in Appendix B

ten tasks correctly in the PEET. In case of being fined, participants' participation fee is reduced correspondingly. [6] Information on the amount of the fine and the tasks required to avoid the fine is continuously provided to participants throughout the PEET.[7]

2.3.2 Decision process

Prior to the decision process, the voluntary scheme, as well as the three interventions, have been explained to the participants by using the neutral term 'version' for each scheme. Hence, for each participant, the voluntary scheme, as well as the interventions, are labeled randomly as 'Version A', 'Version B', 'Version C', and 'Version D'. The decision process on the interventions is carried out in four separate steps. In step I of the decision process, participants are asked to rank the versions based on their preferences. To make the ranking incentive-compatible, it is conveyed to participants that the probability that a version is implemented descends successively by rank. After having made this decision, participants are provided with price lists within each of the steps II, III, and IV.[8] As with each of the price lists, the first price list in step II contains ten choices, in which the participant must indicate their preferences for an intervention. The ten choices differ, as for each choice, an incremental monetary amount is indicated for choosing a certain intervention. Decision steps III and IV are set up similarly to decision step II, but inquire choices for the other versions, respectively.[9] Based on these decisions, one of the choices from the price lists is chosen at random with a weighted probability for price lists in steps II, II, or IV. The decisions are consequential, i.e., the respective monetary consequences of the randomly selected choice affect participants' remuneration.

2.4 Treatments

The experiment contains treatment variations along two dimensions. The first dimension concerns the timing of the PEET. Here, I vary whether the PEET takes place within the same session as the decision on interventions, Session 1 (*immediate*), or whether the performance of the PEET is postponed to Session 2 (*delayed*). The second dimension refers to the number of

[6] It is conveyed to participants that in the pilot session, all participants were able to solve more than ten tasks.

[7] The information regarding the fine and the progress bars displayed in 'Punishment' are provided in Appendix B

[8] An example of the price list is provided in Figure B2 in Appendix B.

[9] For the data analysis, I translate participants' choices in steps II to IV into a variable expressing their demand for a certain intervention in monetary terms. I use the amount of money necessary to make the participant indifferent in choosing either the voluntary scheme or the respective intervention as a measure of demand. Hence, an increase in demand for an intervention is defined by a decline in the amount a participant has to be provided with in order to choose the respective intervention.

regulatees affected by the choice of the intervention. With regard to the regulatee size, I vary whether the decision on the interventions affects only the decider (*self*) or also one (*group2*) or three other participants (*group4*). The treatment variations within the respective dimensions are shown in Table 2. The arrangement of the treatments follows a full factorial two-times-two between-subject design to test variations within the treatment dimensions. In addition to this, the treatment variations contain a within-subject component in the regulatee-size dimension. Participants whose decision also affects other regulatees are asked to make the same choices in the event that they are paired with one other person and three other individuals.[10]

Table 2: Overview treatment variations and planned number of observations

		Time dimension	
		Immediate	Delayed
Regulatee-size dimension	Self	105	103
	group2	98	97
	group4		

Note: The numbers within the table report the observations per treatment in the experiment.

2.4.1 Treatment 'self x immediate'

Participants' choices on the interventions in the treatment 'self x immediate' serve as a baseline comparison for variations in treatments along the time and the regulatee-size dimension. In this treatment, participants are asked to state their preferences on interventions in the decision stage, given that the interventions are only implemented for themselves and that the performance of the PEET takes place in the same session as the decision on the interventions, i.e., in the course of the current session.

2.4.2 Treatment 'self x delay'

The treatment 'self x delay' is constructed similarly to the baseline treatment 'self x immediate'. However, it distinguishes in the implementation time of the PEET. Instead of taking place in the same session as the decisions on the interventions, the performance of the PEET is postponed by a week to Session 2. Hence, in 'self x delay' participants make decisions, which will become relevant a week later. By comparing the preferences for the versions in the decoding task in 'self x immediate' and 'self x delay', I can identify whether the preferences for the respective

[10]The order of these choices is randomized across participants. After the decision stages, participants are informed whether their group comprises two or four individuals, i.e., whether their choices for the group of two or their choices for the group of four becomes relevant.

intervention to induce pro-environmental behavior vary depending on the implementation time of this intervention.

2.4.3 Treatment 'group x immediate'

The treatment 'group x immediate' distinguishes from the baseline treatment, 'self x immediate', as the participant's decisions on the interventions become not only relevant for themselves, but also for other participants in their group. These groups consist either of two (*group2*) or four (*group4*) individuals. After all participants have submitted their decisions, it is randomly selected whose preferences will become relevant to the whole group. The effect of extending the number of regulatees from the decider only to also other participants within the group is assessed in a between-subject design. In contrast, the effect of whether participants decide either for one other or three other additional participants is inquired in a within-subject design.[11] The controlled variation along the regulatee size dimension is established to provide insights on whether and to which degree individual preferences for interventions vary with the size of other individuals affected by their own choice.

2.4.4 Treatment 'group x delay'

In the treatment 'group x delay', participants' preferences for the interventions are inquired given the decision also affects other participants in the group and that the PEET takes place with a delay of a week in Session 2. This treatment serves as a control for possible interaction effects between delaying the PEET and deciding on the interventions, which also affect others.

2.5 Predictions

In this section, I derive testable predictions for the analysis of the demand for interventions based on a theoretical framework. The framework follows the established concepts on consumer demand (Morgenstern 1948; Samuelson 1948; Green 1976). It makes assumptions about the underlying preferences concerning particular interventions, the variation in demand given an increase in the time gap between the choice of the intervention and the performance of the pro-environmental behavior, and on the effect of increasing the size of other regulatees on demand for interventions.

The model has two time periods, $t = [0, 1]$. Within the model, an agent i decides on the respective interventions to be implemented in the pro-environmental task, in which it provides effort, e_i^d. The pro-environmental effort task takes either place in $t = 0$ or $t = 1$. I make the assumption that

[11] Note that in the treatment 'group x immediate', participants complete the decision stage twice, once for the decision in *group2* and once for *group4*.

instead of knowing the true effort level, e_i^d, the agent forms a prior belief over the distribution of effort levels when expressing the demand for interventions, $\tilde{e}_i$. Given the joint distribution of e_i^d and $\tilde{e}_i^d$, the beliefs about the true effort provision are either biased or unbiased. In this context, a bias in beliefs reflects over- or under-confidence (Habla and Muller 2021). The respective utility function of effort provision in the pro-environmental task is denoted by:

$$U_{i,t} = \hat{\delta}_v^t v\left(\tilde{e}_i^d,\ \phi \sum_{j=1}^{N-1} \tilde{e}_j^d\right) - \hat{\delta}_c^t c(\tilde{e}_i^d) + \omega_d(\tilde{e}_i^d) \tag{1}$$

$$\text{with, } \omega_d = \begin{cases} \omega_d \text{ if } \omega > 0 \\ \lambda_i \omega_d \text{ if } \omega < 0 \end{cases} \tag{2}$$

$$\omega_d = \begin{cases} -f^{1(\tilde{e}_i^p < \bar{e}^p)} \text{ if } d = p \\ m\tilde{e}_i^m - f \text{ if } d = m \\ n_i(\tilde{e}_i^n - \bar{e}^n) \text{ if } d = n \end{cases} \tag{3}$$

$$\tag{4}$$

, where the agent derives warm-glow utility from contributing to an environmental public good through effort provision in the from of $v(\tilde{e}_i^d)$, with $v'(\tilde{e}_i^d) > 0,\ v''(\tilde{e}_i^d) < 0$. The cost of effort is given by $c(\tilde{e}_i^d)$ with $\tilde{e}_i^d,\ c'(\tilde{e}_i^d) > 0,\ c''(\tilde{e}_i) > 0$. I further assume that the agent discounts the warm-glow benefits of effort taking place in $t = 1$ by δ_v. Consequently, the costs of effort are discounted by δ_e. I follow Noor et al. (2011) (see also Jackson and Yariv 2015; Andreoni and Serra-Garcia 2019) in assuming that preferences can be time-inconsistent.[12] This is implemented by allowing the discounting of warm-glow utility and the dis-utility from effort provision to differ $\delta_{v,i} \neq \delta_{e,i}$. In particular, if $\delta_{v,i} > \delta_{e,i}$ an agent is 'tempted to slack' as the agent tends to provide less effort at the time of conducting the pro-environmental behavior than previously intended. Instead, if $\delta_{v,i} < \delta_{e,i}$, I define an agent to be 'tempted to give' as the agent prefers to behave more prosocial at the time of performing the pro-environmental behavior than previously planned. This implies that given $\delta_{v,i} \neq \delta_{e,i}$ the agent has time-inconsistent preferences over effort provision in the pro-environmental task, leading to varying optimal levels of effort in $t = 0$ and $t = 1$, $\frac{\delta_v}{\delta_e} e_i^{d*} \neq e_i^{d*}$. For this, to affect the agent's demand for commitment in $t = 1$, the agent must be sophisticated on its own time-inconsistent behavior, $\hat{\delta}_v$ and $\hat{\delta}_e$ (O'Donoghue and

[12] Noor et al. (2011) ground their theory in the $\beta - \delta$ (quasi-) hyperbolic discounting concept (Phelps and Pollak 1968; Laibson 1997) assuming that the present bias varies over different domains. Since differentiating between β and δ is not of relevance in this analysis, I summarize both in the expression of δ.

Rabin 1999, 2001).
Since interventions might not only affect the agent itself, but also other individuals, $N-1$, the model allows for the internalization of the believes of effort provision by others, $\tilde{e}_j^d$. With this respect, I assume individuals to obtain utility from the contributions of other regulatees. Higher contributions of other group members might positively affect the valuation of own contributions due to the notion of reciprocal fairness or the idea of complying with a prior belief of a social norm. Related to this, I introduce the parameter ϕ, which incorporates conditionally cooperative behavior (Fischbacher et al. 2001). Since conditional cooperators put a higher emphasis on reciprocal fairness and equity, I assume them to assign a higher degree of importance to other's effort, i.e., $\phi_{Cond.Coop.} > \phi_{other}$ (Andreozzi et al. 2020, Cappelletti et al. 2011).

The last term of the utility function denotes the effect of the respective intervention. The interventions induce effort as they vary the benefits and costs of effort through an effort weighting function, $\omega_d(\tilde{e}_i^d)$. To investigate the agent's demand for different interventions, I specify effort weighting functions for each intervention. Since the interventions can result in either gains or losses, I allow for loss aversion in the form of $\lambda = \frac{u(-x)}{u(x)} \geq 0$. The interventions comprise a social comparison nudge, a monetary incentive, and a punishment scheme. Thus, the respective effort weighting functions are presented below:

$$\omega_p(\tilde{e}_i^p) = -f^{1(\tilde{e}_i^p < \bar{e}^p)} \tag{5}$$

$$\omega_m(\tilde{e}_i^m) = m\tilde{e}_i^m - f \tag{6}$$

$$\omega_n(\tilde{e}_i^n) = n_i(\tilde{e}_i^n - \bar{e}^n) \tag{7}$$

The effort weighting function for punishment, ω_p, is discrete, inducing a fine, f, if the effort level is below $\bar{e}^p$. The effort weighting function for monetary incentives imposes a fine, f, and rewards each increase in the effort level by m. The nudge represents a non-monetary incentive, where the agent obtains positive utility if performance exceeds a reference point, which can be interpreted as the social norm, $\bar{e}^n$.
The derivative of equation (1) leads to the first order conditions:

$$\hat{\delta}_v^t v'\left((\tilde{e}_i^d,\ \phi \sum_{j=1}^{N-1} \tilde{e}_j^d\right) + \omega_d'(\tilde{e}_i^d) = \hat{\delta}_c^t c'(\tilde{e}_i^d) \tag{8}$$

, implying that in the optimum, the agent expects to provide an effort level at which marginal benefits of the pro-environmental behavior equal the marginal costs. The interventions render this equilibrium through the effort weighting function whose sign depends on the expected effort level given an intervention is implemented. Solving for $\tilde{e}_i^{d=0}$ leads to the optimal effort provision given no intervention is imposed, $\tilde{e}_i^{d=0*}$.

To assess the effect of the interventions, I analyze the most simple case that the expression of the demand for the interventions and the conduction of the pro-environmental effort task take both place in $t = 0$. In addition, I assume that the interventions only affect the agent, but no other individuals, $n = 1$.

In the case of punishment, the individual only bears a fine, f, if performing below $\bar{e}^p$. Thus, if the agent believes to perform above $\bar{e}^p$, it is indifferent towards having punishment implemented on the own behavior. If the agent assumes to perform below $\bar{e}^p$, it raises its effort level to $\bar{e}^p$ given the disutility obtained from the additional effort is lower than the fine, $c(\bar{e}^p - \tilde{e}_i^p) - v(\bar{e}^p - \tilde{e}_i^p) < \lambda f$. Therefore, the agent will only be willing to accept a punishment if it is compensated for the loss in utility from deviating from $\tilde{e}_i^{d=0*}$. This results in the first prediction:

PREDICTION 1: *The demand for punishments is always negative when the believed effort level is below $\bar{e}^p$ and zero otherwise.*

The effort-weighting-function for monetary incentives implies that the willingness to pay for monetary incentives increases in $\tilde{e}_i^m$ by m with a break even point at $\frac{f}{m}$. Respectively, under monetary incentives, the agent increases effort provision until marginal benefits equal marginal costs again, $v'(\tilde{e}_i^m) + m = c'(\tilde{e}_i^m)$. Given this shift in effort due to increased marginal benefits, the agent's demand for monetary incentives is dependent on the monetary gains $m\tilde{e}_i^m$, the loss of utility from deviating from the optimal effort provision, $c(\bar{e}^m - \tilde{e}_i^m) - v(\bar{e}^m - \tilde{e}_i^m)$, and the initial fine f. Thus, if $c(\bar{e}^m - \tilde{e}_i^m) - v(\bar{e}^m - \tilde{e}_i^m) \leq m(\tilde{e}_i^m - \lambda \frac{f}{m})$, the agent has always a weakly positive demand for monetary incentives. Otherwise, the demand for monetary incentives will be negative. This is summarized in the second prediction:

PREDICTION 2: *The demand for monetary incentive can become positive if the believed effort under monetary incentives is sufficiently high to acquire monetary gains.*

The analysis of nudges is similar to the analysis of monetary incentives, although the outcome is non-monetary in the case of nudges. In particular, social comparison nudges appeal to social norms and morality (Allcott and Kessler 2019; Myers and Souza 2020). Thus, the level of utility obtained from the Nudge will depend on the level of compliance with the social norm.[13] Therefore, I model the agent's utility obtained from nudges to increase linearly in $\tilde{e}_i^n$ by the marginal valuation of the social norm, n_i. Under the nudge, the agent increases effort until $v'(\tilde{e}_i^n) + n_i = c'(\tilde{e}_i^n)$. The agent will have a weakly positive demand for nudges if the moral gains outweigh the loss in utility of deviating from the optimal effort provision,

[13] In the experiment, prior to the preference elicitation, I communicate a descriptive social norm by stating that an average participant achieved to solved 20 tasks in the past.

$c(\bar{e}^n - \tilde{e}_i^n) - v(\bar{e}^n - \tilde{e}_i^n) \leq n_i(\tilde{e}_i^n - \bar{e}^n)$. In the other case, the demand for nudges will be negative. The analysis of the nudge leads to the following predictions:

PREDICTION 3: *The demand for nudges can become positive if the believed effort under the nudge ranges above the social norm, i.e., the average performance of other individuals.*

Based on the model, I can also identify drivers of demand for interventions. As these, I assess the effect of the perceived difficulty, the valuation of the public good, prior beliefs of performance, and loss aversion in more detail in Appendix C. Table 3 summarizes the obtained predictions on the different variables.

Table 3: Predictions on drivers of demand for interventions

	Variable	**Prediction**
Prediction 4a	Beliefs on performance	Beliefs on own performance positively influences the demand for interventions.
Prediction 4b	Valuation of public good	The demand for interventions increases in the valuation of the pro-environmental outcome.
Prediction 4c	Perceived difficulty	The demand for interventions decreases in the perceived difficulty of the pro-environmental task.
Prediction 4d	Loss aversion	Loss aversion reduces the demand for punishment and monetary incentives.

Prediction 4a states beliefs about the own performance to have a positive effect on the demand for the interventions. The reason for this is that costs shrink and benefits increase with enhanced performance either linearly in the case of monetary incentives and nudges or discrete in the case of punishments. Therefore, larger prior beliefs of effort provision affect the demand for interventions positively. Prediction 4b assumes the perceived difficulty of the pro-environmental task to decrease the demand for interventions, i.e., the effort cost function becomes more convex. Thus, an increase in the perceived difficulty reduces the beliefs of provided effort and, thereby, decreases the benefit-cost ratio of interventions. Prediction 4c assumes the valuation of the public good to increase the demand for interventions, i.e., the warm-glow utility function becomes less concave. Therefore, with an increasing valuation of the public good, the the beliefs about the own effort provision increase and the benefit-cost ratio of interventions rises. Prediction 4d assumes loss aversion to reduce the demand for punishment and monetary incentives, as the possibility of entailing monetary losses weighs higher than the gains the more loss avers the agent is. This affects the cost-benefit outcome of interventions disfavorably.

2.5.1 Effects of delayed performance

Postponing the pro-environmental task to $t = 1$ increases the time gap between the agent's expression of the demand for interventions and the conduction of the task. This allows analyzing whether agents use interventions as commitment devices as it provides the present-self to constrain the future-self's choices on effort by making low effort provision more expensive. To investigate this, first, I assess the effect of delays on the utility derived from the pro-environmental task. Second, I assess the implications of this on the demand for regulation.
Given the pro-environmental task is postponed to $t = 1$, the utility in both periods can differ given by:

$$U_{i,t=0}(\tilde{e}_i^d) = \hat{\delta}_v^t v(\tilde{e}_i^d) - \hat{\delta}_e^t c(\tilde{e}_i^d) + \omega_d(\tilde{e}_i^d) \tag{9}$$

$$U_{i,t=1}(\tilde{e}_i^d) = v(\tilde{e}_i^d) - c(\tilde{e}_i^d) + \omega_d(\tilde{e}_i^d). \tag{10}$$

For the agent to apply interventions as commitment devices, there are two prerequisites necessary. First, the agent must be sophisticated on its own time-inconsistent behavior (O'Donoghue and Rabin 1999, 2001). Second, the agent must discount the cost of effort more heavily than the benefits of effort, $\frac{\hat{\delta}_v^t}{\hat{\delta}_e^t} > 1$. Given these circumstances, the agent is aware that the optimal effort level in $t = 0$ is larger than optimal effort levels in $t = 1$, $\frac{\hat{\delta}_v^t}{\hat{\delta}_e^t}\tilde{e}_i^{d*} > \tilde{e}_i^{d*}$. Therefore, in $t = 0$, the agent can actively demand interventions as commitment devices to bind itself to its desired effort level. This leads to an increase in utility if commitment in $t = 1$ shifts the optimal effort level closer to the effort preferences in $t = 0$:

$$\left| \frac{\hat{\delta}_v^t}{\hat{\delta}_e^t}\tilde{e}_i^{d=0} - \tilde{e}_i^{d=0} \right| - \left| \frac{\hat{\delta}_v^t}{\hat{\delta}_e^t}\tilde{e}_i^{d=0} - \tilde{e}_i^{d=1} \right| > 0 \tag{11}$$

Hence, only if $\left| \frac{\hat{\delta}_v^t}{\hat{\delta}_e^t}\tilde{e}_i^{d=0} - \tilde{e}_i^{d=0} \right| > \left| \frac{\hat{\delta}_v^t}{\hat{\delta}_e^t}\tilde{e}_i^{d=0} - \tilde{e}_i^{d=1} \right|$ and $\frac{\hat{\delta}_v^t}{\hat{\delta}_e^t} > 1$, the demand for interventions increases when postponing the task to $t = 1$. Thus, demanding regulation in case of time-inconsistent preferences is also dependent on the beliefs about the effectiveness of the different interventions. The fifth prediction summarizes the theoretical considerations on demand for regulation across time:

PREDICTION 5: *Agents, who are sophisticated on discounting effort provision more heavily than the warm-glow utility, have a higher demand for interventions if the PEET is delayed by a week.*

2.5.2 Effects of increases in the regulatee size

Environmental regulations also constrain the behavior of others. In the model, the number of regulatees is given by N. To analyze the effect of the regulatee size on demand for interventions, I assume $N > 1$ and that the environmental task takes place in $t = 0$.
The following utility functions contrast utility obtained from the pro-environmental task in an individual context, $N = 1$ and a group context, $N > 1$

$$U_{i,N=1}(\tilde{e}_i) = v(\tilde{e}_i^d) - c(\tilde{e}_i^d) - \omega_d(\tilde{e}_i^d) \tag{12}$$

$$U_{i,N>1}(\tilde{e}_i) = v\left(\tilde{e}_i^d,\ \phi \sum_{j=1}^{N-1} \tilde{e}_j^d\right) - c(\tilde{e}_i^d) - \omega_d(\tilde{e}_i^d) \tag{13}$$

Comparing the differences in utility of equations (12) and (13) reveals that the agent obtains a positive utility from others effort, $\frac{\partial v\left(\tilde{e}_i^d,\ \phi \sum_{j=1}^{N-1} \tilde{e}_j^d\right)}{\partial \tilde{e}_j^d} \geq 0$, which is influenced by the conditional cooperation parameter, ϕ. An increase in the beliefs in the others' contributions positively affects the agent's motivation to contribute, increases the prior of a social norm of effort provision in the PEET, or increases the notion of reciprocal fairness. Interventions are capable of increasing the beliefs of others' effort level respectively, given the agent beliefs in the effectiveness of the interventions. This results in an expression for the changes in demand for interventions given an increase in the regulatee size:

$$\phi \sum_{j=1}^{N-1} v(\tilde{e}_j^{d=1}) - \phi \sum_{j=1}^{N-1} v(\tilde{e}_j^{d=0}) \geq 0 \tag{14}$$

The terms imply that the agent derives positive utility from the enhanced effort of the other regulatees, which occur at similar costs as in the case of the absence of other regulatees. Therefore, an intervention implemented on a group level entails additional benefits for the agents. This leads to the sixth prediction:

PREDICTION 6: *An increase in the number of regulatees increases the demand for interventions.*

In addition, conditional cooperators are predicted to increase their demand for interventions to larger degrees than others given the intervention affects the entire group instead of affecting the agent only. Interventions assure conditionally cooperative agents that also others increase their contributions to the environmental public good if a particular intervention is in place. The behavior of conditional cooperators is largely driven by inequity aversion (Levati et al. 2007; Cappelletti et al. 2011). Consequently, they are more willing to increase their own effort level

by means of an intervention, knowing that the others in the group will act accordingly.

PREDICTION 7: *The demand for interventions increases to a larger extent with the number of other regulatees, if the agent is a conditional cooperator.*

2.6 Sample & Procedure

The experiment took place online from July 2020 until November 2020, using the recruiting infrastructure of the 'MLab' of the University of Mannheim and the 'Laboratory for Economic Research' at the University of Cologne. Participants earned 20€ on average by participating in two separate sessions over the course of a week.[14] Session 2 takes place seven days after the first session at a similar time of the day. Both sessions took about an hour to be completed. Participants were recruited via 'Orsee' (Greiner et al. 2004). The participation took place online and does not require the participants to be present in the laboratory. The experiment was programmed and carried out through the experimental software 'oTree' (Chen et al. 2016). Individual payments to participants were transferred via Paypal or bank transfer.
In total, 403 participants fully completed the experiment. Table 4 provides an overview on the number of participants, the sample characteristics concerning experimental outcomes and demographic variables across treatments.[15] It shows that the number of participants per treatment is well balanced ranging between 105 to 97. The payoff variable displays that participants on average received about 19.8€. As an incentivized control question participants had the option to donate their remuneration to charity (See Appendix A.1.1). The amount donated is at 1.80€ on average. The average participant is between 25 and 26 years old, has a monthly income of around 1000€. In the treatment 'group x delay' participants income is significantly below the income of participants in the treatment 'self x immediate' (MW U-test, p=0.0067). The gender of participants is rather balanced with 59 percent of participants being female. Additionally, participants donated about 91€ to charity in the 12 months prior to participation with a tendency of participants having donated higher amounts in 'self x delay' (MW U-test, p=0.0841). Also, approximately 42 percent voted for a green party on average, whereas this value is particularly high in the treatment 'group x delay' with 47 percent of participants (MW U-test, p=0.0796).

[14] Participants received 5€ after Session 1 and 12€ for completing Session 2. 3€ were on average additionally earned through incentivized control questions.

[15] The number of observations are pre-registered and were based on a power analysis, which uses data from a pilot containing 31 participants.

Table 4: Descriptive sample statistics

	Mean				
	all	self x immediate	self x delay	group x immediate	group x delay
Payoff	17.91€ (4.76)	17.91€ (4.14)	18.05€ (5.31)	18.14€ (3.76)	17.63€ (5.71)
Donation	1.82€ (3.96)	1.87€ (3.78)	1.33€ (4.10)	1.72€ (2.38)	2.38€ (5.16)
Age	25.8 (6.40)	25.73 (5.40)	25.97 (7.01)	26.15 (8.26)	24.97
Income	962€ (765)	1093€ (803)	1012€ (678)	906€ (785)	869€** (776)
Female	0.58 (0.49)	0.59 (0.49)	0.54 (0.5)	0.65 (0.48)	0.56 (0.50)
Donations last year	91.23 (614.01)	53.53€ (145.59)	83.59€+ (77.46)	42.45€ (188.31)	189.43€ (1224.02)
Green party voters	0.42 (0.49)	0.35 (0.48)	0.45 (0.49)	0.40 (0.49)	0.47+ (0.50)
Participants	403	105	103	98	97

Note: Standard errors in parenthesis. Further information on the definition and measurement of the variables can be retrieved from Table A1 in Appendix A. Statistically significant differences in the variable means of the treamtents 'self x delay', 'self x immediate', and 'group x delay' to the variable means of 'self x immediate' are denoted by $^{+}$p<0.1; *p<0.05; **p<0.01; ***p<0.001.$^{+}$p<0.1; *p<0.05; **p<0.01; ***p<0.001.

As the completion of the experiment involved participation in two sessions, which were both a week apart from each other, there was attrition of participants who failed to show up to the second session. Of the 421 participants, who successfully completed Session 1, 18 participants did not show up for the second session. This translates to an attrition rate of 4%. Attrition is not related to treatment assignment as the individuals within the attrition sample are equally distributed concerning the time dimension of treatment variation (49% 'immediate ', 51% 'delay'). Regarding the regulatee-size dimension, 44% of participants were assigned to the treatment *self*, while 56% were assigned to treatment *group*. Furthermore, the choice on the interventions is not related to participation in Session 2 (see Table A2 Appendix A.2).

3 Results

The results are presented in five subsections. First, I present the performance in the PEET by intervention. Second, I assess the demand for the respective interventions of pro-environmental behavior in the PEET, evaluating hypotheses 1-3, and investigate possible drivers of this demand, according to hypotheses 4a,4b,4c, and 4d. Third, I assess hypothesis 5 by investigating whether shifts in implementation time varies the willingness of having interventions imposed. Fourth, I

evaluate hypotheses 6 and 7 by analyzing whether implementing interventions on other regulatees increases the demand for interventions. Finally, I analyze to which degree the willingness to restrict pro-environmental choices affect political preference formation.

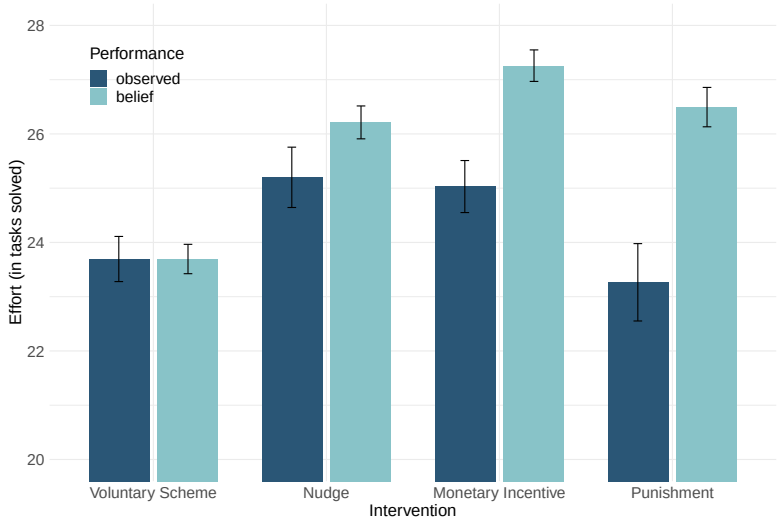
3.1 Performance in the PEET

As a sanity check for the effect of the interventions on participants' behavior, this section briefly presents the different effort levels provided under the interventions. The individual performance in the PEET across interventions is summarized in Figure 3, reporting effort provision as tasks solved within the eight minutes of the PEET by intervention, as well as beliefs of participants on their effort provision under interventions. On average, participants solved 23.7 tasks within the 8 minutes in the absence of any intervention. Comparing this to the effort of participants under the interventions, I observe a significantly higher effort given participants were provided with social comparisons in 'Nudge' (23.7 vs. 25.2, p-value=0.0340, Table A3). The provision of rewards in 'Monetary Incentive' also led to higher effort levels on average (23.7 vs. 25.0, p-value=0.0364, Table A3). The average effort level in 'Punishment ' is statistically indistinguishable from effort levels under the 'Voluntary Scheme' (23.7 vs. 23.3, p-value=0.6201, Table A3). However, although the intervention 'Punishment' did not effectively increase performance, participants believed effort under 'Punishment' to be higher than under the effort levels under the 'Voluntary Scheme' at the time of making the decision on the interventions. Thus, the analysis of demand for interventions is not jeopardized by the lack in effectiveness of the 'Punishment' scheme.

3.2 Demand for interventions of pro-environmental behavior

Figure 4 presents the demand curves for the interventions in the treatment 'self x immediate', meaning that the PEET takes place in the same session and that participants only decide for themselves. Besides presenting the demand pooled across all interventions, the figure shows the demand for the particular intervention, i.e., 'Nudge', 'Monetary Incentive', and 'Punishment'. The demand curves depict the share of participants willing to impose a certain intervention on their behavior at different prices. Demand at negative prices implies that participants obtain a compensation at the given price to have an intervention implemented, whereas the demand at positive prices indicates that participants are willing to pay the corresponding amount for having an intervention. At prices of zero, the demand curves report participants' preferences for interventions in the absence of any compensation or required payments. Figure 4 shows that 50 percent of participants are willing to implement an intervention at a price of -1.33€ when averaging across interventions. At a price of zero, this share is reduced to 24 percent, suggesting that a considerable share of participants have a preference for implementing an intervention in

Figure 3: Tasks solved within the PEET across interventions



Note: The vertical axis reports the number of tasks solved within the eight minutes. The horizontal axis differentiates by intervention, i.e., 'Voluntary Scheme' (n=131),'Nudge' (n=90),'Monetary Incentive' (n=133), 'Punishment' (n=49) individually. The dark-blue bars show the observed performance, displaying the average number of tasks solved under the respective intervention or under the 'Voluntary Scheme' in the experiment. The light-blue bars show the beliefs of participants on their performance in the task (n=403 for each intervention). These values are retrieved from the beliefs in the effectiveness of the different treatments, inquired in the post-questionnaire, see Table A1. For better comparison, the beliefs had been calibrated in a way that the beliefs on tasks solved in the 'Voluntary Scheme'match the actual number of tasks solved.

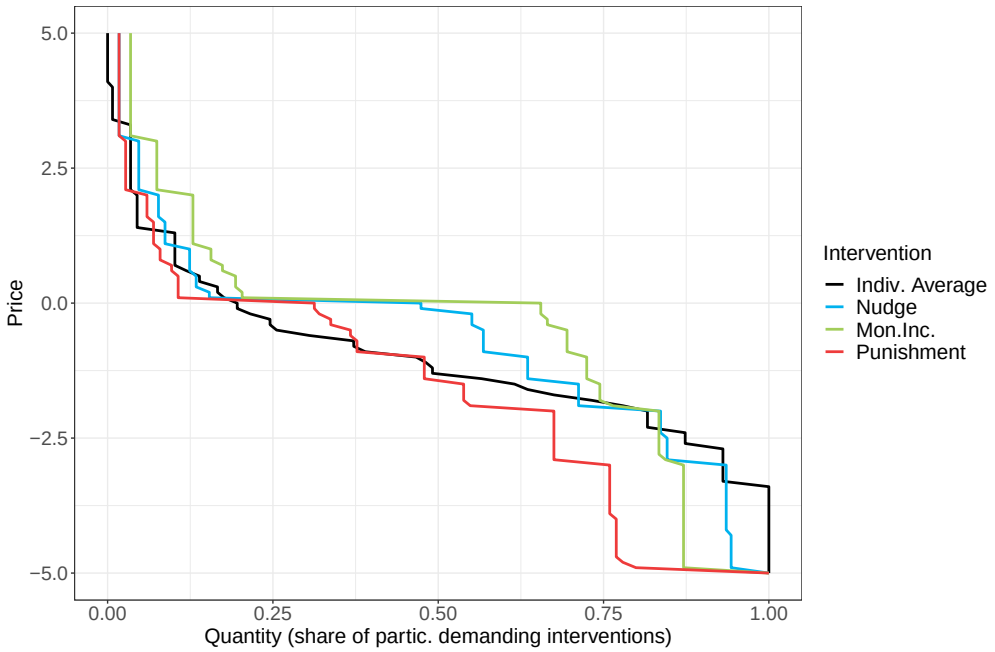
the PEET. This is supported by analyzing the demand for 'Punishment'. Although 'Punishment' constrains participants' behavior without entailing additional benefits, 16 percent have a positive willingness to pay for 'Punishment' (MW U-test, p=0.0001). This result contradicts Prediction 1, which assumes no demand for punishment at prices larger than zero. The share of participants demanding 'Punishment' rises to 50 percent given a compensation of 1.5€ is offered. In contrast to 'Punishment', the interventions 'Nudge' and 'Monetary Incentive' provide the prospect of additional benefits through effort provision. Figure 4 shows that this leads to a significant increase in demand for 'Nudge' and 'Monetary Incentive' compared to 'Punishment' (M-W U test, p=0.0033, p=0.0001). In support of Prediction 2 and 3, at prices of zero, 47 percent of participants demand 'Nudge' and 66 percent demand 'Monetary Incentive'. Although the demand for 'Monetary Incentive' mostly ranges above the demand for 'Nudge', the difference is not statistically significant (MW U-Test, p=0.1224). This leads to my first result:

RESULT 1: *A substantial share of participants demand interventions at prices of zero.*

When analyzing the demand for interventions across participants, I observe a large heterogeneity. The standard deviations of the mean demand for the particular interventions are comparably high with 1.78, 2.23, and 2.24 in the case of 'Nudge', 'Monetary Incentive', and 'Punishment'. To investigate the respective heterogeneity in demand, Table 5 presents the variables, which represent drivers of demand for the particular intervention. The table summarizes the results from the Tables A6, A7, A8, and A9 in Appendix A.2, in which the demand for the respective intervention is regressed on various predictors by using a least absolute shrinkage and selection operator (LASSO) to select relevant predictors.[16] Table 5 shows the selected predictors, indicated by plus or minus signs depending on the direction of the effect. I use these results to classify participants into four types. These types are given by clusters of individuals, who either avoid implementing interventions, seek the 'Nudge', seek 'Monetary Incentives' or seek 'Punishment'. In the first column, the drivers of avoiding interventions are analyzed. I classify these individuals as the

[16]LASSO is a regression method that is applied in machine learning operations, selecting variables to increase the predictive performance of the model and adjust for overfitting (Tibshirani 1996). Additionally, I use Benjamini-Hochberg multiple hypotheses adjustments to control for the false discovery rate (Benjamini and Hochberg 1995).

Figure 4: Demand for interventions



Note: The demand curves show the share of participants, whose negative willingess to accept to implement a certain intervention ('Nudge','Monetary Incentive', 'Punishment') is greater or equal the given price. The variable 'indiv. Average' shows the individual negative willingness to accept to impose an intervention averaged across types of interventions. The observations are pooled across treatments.

'Unconfident Scepticists', as those participants are not conditionally cooperative, are impatient, and, in line with Prediction 4a, have low beliefs in the effectiveness of interventions and their own performance. However, in contrast to Predictions 4b, 4c, and 4d, participants' demand to avoid interventions is not driven by perceived difficulty, or a low valuation of the public good.[17] The demand for 'Nudge' in column two reveals that the predictors insufficiently explain the respective variation, as only the income of participants is selected as a relevant variable, suggesting that low-income participants have a lower demand for 'Nudge'. Additionally, weak evidence is provided that participants who are sophisticated on being tempted to slack tend to avoid the 'Nudge'. Furthermore, positive beliefs in the effectiveness of social comparisons and the pressure they impose on participants increase the demand for 'Nudge'.[18] Although the predictors are weak, I categorize these participants as the 'Norm Believer'. Regarding the predictions, I cannot confirm the Predictions 4a, 4b, and 4c as the demand for 'Nudge' is unaffected by the

[17] Perceived difficulty was measured by asking about the difficulty of the PEET in the post-questionnaire. As proxies for the valuation of the public good, I use altruism and environmental attitudes (see Table A1 in Appendix A).

[18] The signs for the latter three variables are in parenthesis, as $1/\hat{\delta}_{effort}$ is only significant in the OLS-regression (p=0.0534, see Table A7), *Perceived Pressure* is only significant in the parsimonious model (p=0.0488, see Table A7), and *Effectiveness of intervention* is only significant in a non-parametric test: Participants choosing 'Nudge' as their first choice believe that it reduces the time per task by 12%, while the remaining participants believe this value to be at 4% (M-W U test, p=0.0127).

Table 5: Drivers of demand for the interventions 'Nudge', 'Monetary Incentive' and 'Punishment'

	No Intervention	**Nudge**	**Monetary Incentive**	**Punishment**
Conditional Cooperation	−			+
Patience	**−**			**+**
Beliefs about own perf.	**−**		**+**	
Effectiveness of intervention	−	(+)		
Income	+	**−**		**−**
$1/\hat{\delta}_{effort}$		(−)	+	
$\hat{\delta}_{prosocial}$			**−**	
Perceived pressure		(+)	−	
Altruism			−	**+**
Monetary discount rate			−	
Self-control				**+**
Paternalism				+

Note: If the LASSO operator reports the predictor to be of relevance for the dependent variable ('Voluntary Scheme', 'Nugde', 'Monetary Incentive', 'Punishment'): blank fields indicate no relevance of the variable, and the signs indicate the direction of the effects of the explanatory variable on the dependent variables. If the sign is bold, the predictor's significance remains given multiple hypotheses adjustments. Information on the predicting variables can be retrieved from Table A1 in Appendix A. The results are based on the regressions in Tables A6, A7, A8, and A9 in Appendix A.2

beliefs in the own performance, the valuation of the public good, and the perceived difficulty. Participants demanding 'Monetary Incentive' are classified as the 'Confident Performer', as, in line with Prediction 4a, they have high beliefs about their performance and tend not to be pressured by monetary reward schemes (see Table 5 column 3). In addition to this, these participants are less altruistic, discount monetary income to smaller degrees, and are aware that they are tempted to slack in work tasks. The findings oppose Prediction 4b since the negative sign of the altruism variable indicates that a high value for the public good rather decreases the demand for this intervention instead of increasing it. Also, I cannot confirm Predictions 4c and 4d because perceived difficulty and loss aversion do not have an influence on the demand for 'Monetary Incentive'. Lastly, participants, demanding 'Punishment', are labeled as the 'Self-Controlled Philanthropists'. They tend to be more altruistic, behave conditionally cooperative, dispose over higher degrees of self-control, and have paternalistic attitudes. The results support Prediction 4b that the valuation of the public good increases the demand for the intervention. However, I cannot confirm the predictions regarding the beliefs on own performance, loss aversion, and perceived difficulty (Predictions 4a, 4c, 4d). The analysis of the heterogeneity in the demand for interventions revealed the diverse drivers for the different interventions. Consequently, the findings do not narrow down to a consistent picture of the predictors of demand. The perceived difficulty of the PEET and loss aversion do not affect the demand for interventions. Yet, there is mixed evidence on the effect of the individual valuation of a task, while the beliefs on performance mostly increase the demand for 'Monetary Incentive'. This leads to the following result:

RESULT 2: *The preferences for interventions are heterogeneously distributed across participants and depend on individual attitudes and characteristics.*

Prediction 4a	Partly confirmed since the beliefs about the own performance influence the demand for no intervention and for 'Monetary Incentive'
Prediction 4b	Partly confirmed due to the effects of altruism on the demand for 'Monetary Incentive' and 'Punishment'
Prediction 4c	Rejected as perceived difficulty has no influence on the demand for interventions.
Prediction 4d	Rejected as loss aversion does not affect the demand for interventions

3.3 Timing of the PEET and demand for interventions as commitment devices

Subsection 3.2 showed that between one and two-thirds of participants actively demand interventions depending on the type of intervention. This section analyzes whether the willingness to implement interventions varies if participants have the option to impose an intervention on their future-self instead of their present-self and thereby use the interventions as commitment devices.

I analyze differences in the demand for interventions by varying whether the PEET occurs on the same day as the decision on the interventions (Session 1) or with a delay of a week (Session 2).

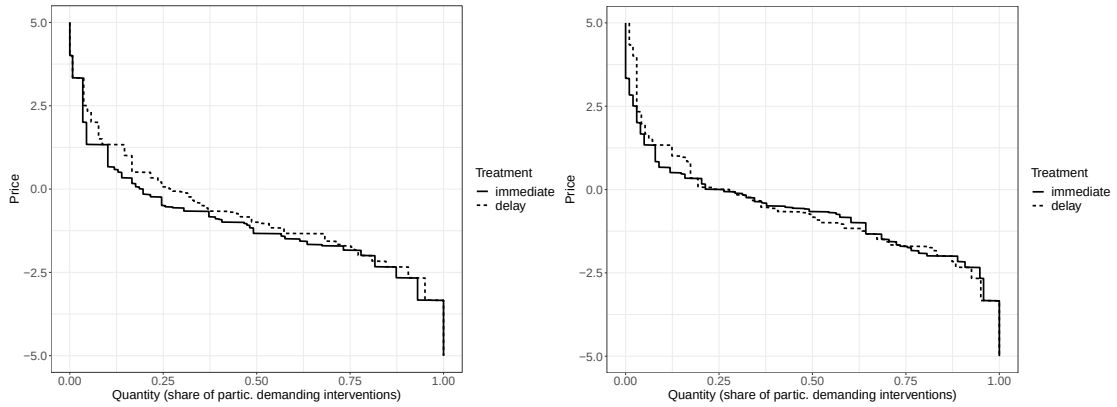
Figure 5 shows the demand for interventions on pro-environmental behavior given the PEET takes place in Session 1 (immediate) or Session 2 (delay). The demand for interventions is averaged over types of interventions, consisting of 'Nudge', 'Monetary Incentive', and 'Punishment'. In Panel A, I report the demand, given the intervention only affects oneself. I observe that the demand increases, i.e., shifts to the top-right of the panel, given the PEET is postponed by one week. Although the overall difference in demand between treatments is not significant (M-W U test, p=0.1106), I observe significant differences in demand between the treatments at price ranges of -0.57€ to -0.07€ (see Table A4 in Appendix A.2). Panel B of Figure 5 shows delay effects in the demand for interventions within the PEET, given the intervention affects not only oneself but also the other participants in the group. In contrast to decisions that only affect oneself, the demand for an intervention for the whole group does shift in a certain direction in response to delays in the timing of the PEET (M-W U test, 0.6528). The demand for a delayed group intervention significantly differs only from the demand for an immediate group intervention at positive prices of 0.6€ to 1€ (see Table A5). This leads to the third result.

RESULT 3: *Participants have a tendency to use interventions as commitment devices for pro-environmental behavior.*

Figure 5: Demand for interventions to pro-environmental effort across time treatments

(a) The intervention is only affecting the decider (treatment 'self')

(b) The intervention is affecting the entire group (treatment 'group')



Note: The demand curve shows the share of participants, whose negative willingess to accept to implement an intervention is averaged across interventions at difference prices. The solid line shows the demand for interventions in the 'immediate' treatment and the dashed lines indicate the demand for interventions in the 'delay' treatment.

To control the influence of other covariates in decision making, I analyze the effect of delayed implementation of the PEET on demand for an intervention in an OLS-regression model in Table 6. In this table, the average demand for an intervention across devices is used as the dependent variable.[19] In column 1, the treatment indicator *Delay* reports that the demand for an intervention rises on average by 0.22€ if the PEET is delayed by a week. However, the coefficient is statistically indistinguishable from zero (p=0.3087, Table 6).

In Column 2, I interact the treatment indicator variable with participants' sophistication on their discounting of prosocial choices, $\hat{\delta}_{prosocial}$, their sophistication on their discounting behavior regarding effort provision, $\hat{\delta}_{effort}$, and their discount rate on monetary decisions. The coefficients of the explanatory variables reveal large heterogeneity across participants in response to delayed implementation of the PEET. The coefficients of '*Delay x* $\hat{\delta}_{prosocial}$' and '$\hat{\delta}_{prosocial}$' have opposing directions and are highly significant (p=0.0003, p=0.0005, Table 6). This implies that participants who are sophisticated on being 'tempted to keep', i.e., those who contribute less to a good cause than initially intended,[20] have a higher demand for interventions in response to a delay of the PEET. When analyzing the effect of discounting behavior over effort choices, Table 6 reports that participants, who are sophisticated on being 'tempted to slack' in work tasks,

[19]The demand is measured for each intervention on participant level in the form of willingness to pay to implement the intervention. Thereafter, the demand was averaged and aggregated over individuals.

[20]These individuals have a $_{prosocial}, whichissmallerthanone$

i.e., those who provide less effort than initially intended[21], generally have a lower demand for interventions if the PEET is postponed to a later date (p=0.0466, Table 6). These individuals show a preference for flexibility. Hence, the findings on the demand for interventions given sophistication of prosocial discounting behavior confirm Prediction 5.

Table 6: OLS-Regression table on the effect of delaying the PEET by a week on demand for interventions

	Dependent variable:		
	Demand for interventions		
	(1)	(2)	(3)
Delay	0.221	0.401^{+}	-5.633^{***}
	(0.217)	(0.222)	(1.478)
Delay x $\hat{\delta}_{prosocial}$		0.063^{***}	
		(0.017)	
Delay x $1/\hat{\delta}_{effort}$		-0.009^{*}	
		(0.004)	
Delay x Mon. Discounting		-0.209	
		(0.187)	
Delay x γ			5.986^{***}
			(1.499)
$1/\delta_{effort}$	0.002	0.001	0.001
	(0.001)	(0.001)	(0.001)
$1/\hat{\delta}_{effort}$	-0.001	0.003	
	(0.003)	(0.003)	
$\delta_{prosocial}$	-0.005	-0.009^{+}	-0.009^{*}
	(0.005)	(0.005)	(0.005)
$\hat{\delta}_{prosocial}$	-0.011	-0.043^{***}	
	(0.009)	(0.012)	
γ			-3.492^{***}
			(1.044)
Constant	-2.576^{*}	-1.775	1.868
	(1.272)	(1.266)	(1.749)
Observations	401	401	401
R^2	0.112	0.152	0.146

Note: Information on the control variables can be retrieved from Table A1 in Appendix A. The dependent variable reports the negative WTA (measured in Euros) to implement an intervention in the PEET. The entire regression Table is displayed in Table A12 in the Appendix. Robust standard errors in parentheses. $^{+}$p<0.1; *p<0.05; **p<0.01; ***p<0.001

RESULT 4: *Participants who are sophisticated about being 'tempted to keep' use interventions as commitment devices*

In contrast to Prediction 5's hypothesis on participants' discounting behavior in effort provision, sophistication on a relatively high discount rate for effort provision leads to an increase

[21] These individuals have values of $1/\hat{\delta}_{effort}$ which are greater than one

in demand for flexibility if the PEET is postponed. In column 3 of Table 6, I follow the model from section 2.5 and merge sophistication on time-inconsistencies in prosocial and effort choices to a single variable, γ. However, since the effect of time-inconsistencies in effort provision on demand for regulation opposes the theoretical prediction, γ is defined as the product of $\hat{\delta}_{prosocial}$ and $\hat{\delta}_{effort}$, instead of their ratio. The highly significant coefficient for the γ term confirms the strong influence of individual awareness of time-inconsistent choices on demand for interventions in the PEET (γ *x Delay*: p=0.0001, γ: p=0.0009, Table 6).

Table 7 analyzes the effects of a delay of the PEET on the demand for the three different interventions separately. In column 1-3, the indicator for postponing the PEET, *delay*, is only significant for the 'Nudge'. This suggests that the demand for 'Nudge' increases if the PEET is postponed by a week (p=0.0742, Table 7). However, this is not the case for the demand for 'Monetary Incentives' and 'Punishment' (p=0.6772, p=0.1958, Table 7). Similar to the analysis in Table 6, columns 4-6 extend the models from column 1-3 by adding interaction terms for the delay treatment. I observe consistently positive and significant correlation between for sophisticated discounting of warm-glow utility and demand for interventions.[22] The effect is particularly strong in the case of 'Punishment' (p=0.001, p=0.0020, Table 7). In contrast, the effect of sophistication of discounting behavior over effort allocations on the demand for interventions is largely driven by the demand for 'Monetary Incentives'. Thus, participants who are aware of being 'tempted to slack' have a lower demand for 'Monetary Incentives' if the PEET is postponed by a week (Mon. Inc.: p=0.0046, Table 7). A subsample analysis suggests loss-aversion as a possible driver of this effect. Table A14 in Appendix A reveals that the demand for flexibility of participants who are knowingly tempted to slack doubles if the sample is restricted to loss-avers participants.[23] This provides evidence that the reduction in demand for 'Monetary Incentive', given delayed implementations of the PEET, is driven by a cautious measure to avoid negative outcomes of slacking on own payoff.[24]

Based on the elicitation of participants' willingness to impose an intervention at different prices, given the PEET takes place either in the first or the second week, I calculate welfare effects of delays in the implementation of the PEET. These effects are given by the change in consumer surplus and the welfare equivalent price change needed to induce a similar demand response. The results show that delaying the PEET by one week increases consumer surplus by 46.14 percent. To induce a similar change through price mechanisms, a welfare equivalent subsidy of

[22] Delay x $\hat{\delta}_{prosocial}$: Nudge: p=0.0625, Mon.Inc.: p=0.0674, Punish.: p=0.0001; $\hat{\delta}_{prosocial}$: Nudge: p=0.1186, Mon.Inc.: p=0.0017, Punish.: p=0.0020

[23] The subgroup consists of participants whose scores of loss aversion are above the median. The loss aversion parameter was inquired in the post-questionnaire (see Table A1).

[24] Similar effects are not observed for 'Punishment', most likely as negative outcomes can be more easily avoided for this intervention.

Table 7: OLS-Regression table on the effect of delaying the PEET by a week on demand for 'Nudge', 'Monetary Incentive' and 'Punishment'

	Dependent variables:					
	Demand for Nudges	Demand for Mon. Inc.	Demand for Punishment	Demand for Nudges	Demand for Mon. Inc.	Demand for Punishment
	(1)	(2)	(3)	(4)	(5)	(6)
Delay	0.514^{+}	-0.275	0.425	0.736^{**}	-0.140	0.607^{+}
	(0.263)	(0.331)	(0.320)	(0.271)	(0.341)	(0.326)
Delay x $\hat{\delta}_{prosocial}$				0.038^{+}	0.049^{+}	0.100^{***}
				(0.021)	(0.026)	(0.025)
Delay x Work Incon Aware				-0.010^{+}	-0.019^{**}	0.003
				(0.005)	(0.007)	(0.007)
Delay x Mon. Discounting				-0.440^{+}	0.114	-0.300
				(0.228)	(0.287)	(0.275)
δ_{effort}	0.003^{*}	-0.0005	0.002	0.003^{+}	-0.0005	0.001
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
$\hat{\delta}_{effort}$	-0.007^{*}	0.008^{*}	-0.004	-0.002	0.018^{***}	-0.006
	(0.003)	(0.004)	(0.004)	(0.004)	(0.005)	(0.005)
$\delta_{prosocial}$	0.004	-0.011	-0.008	0.001	-0.015^{*}	-0.013^{+}
	(0.006)	(0.007)	(0.007)	(0.006)	(0.007)	(0.007)
$\hat{\delta}_{prosocial}$	0.005	-0.036^{**}	-0.002	-0.013	-0.060^{**}	-0.055^{**}
	(0.010)	(0.013)	(0.013)	(0.015)	(0.019)	(0.018)
Mon. Discounting	0.006	-0.198	0.026	0.170	-0.273	0.159
	(0.114)	(0.144)	(0.139)	(0.147)	(0.185)	(0.177)
Constant	-1.828	-1.159	-4.741^{*}	-1.120	-0.195	-4.011^{*}
	(1.542)	(1.939)	(1.877)	(1.548)	(1.946)	(1.865)
Observations	401	401	401	401	401	401
R^2	0.127	0.115	0.190	0.151	0.139	0.229

Note: Information on the control variables can be retrieved from Table A1 in Appendix A. The dependent variable reports the negative WTA (measured in Euros) to implement an intervention in the PEET. The entire regression Table is displayed in Table A12 in the Appendix. Robust standard errors in parentheses. $^{+}$p<0.1; *p<0.05; **p<0.01; ***p<0.001

0.51€ would have been required (see Appendix C.2).

3.4 Regulatee size and demand for interventions

In this section, I investigate whether the possibility of imposing an intervention on a group level, i.e., on oneself and the others in the group, leads to differences in the demand for interventions compared to the demand when constraining own behavior only.

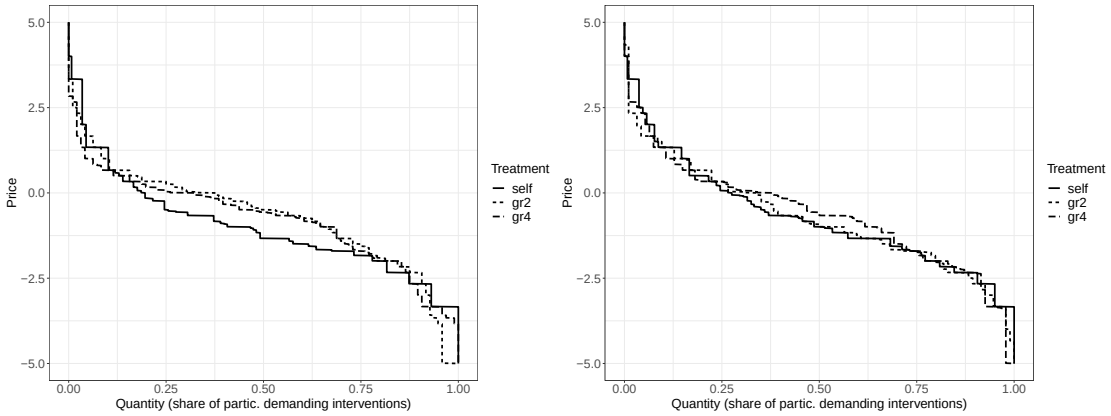
Figure 6 shows the demand curves for interventions in the PEET distinguished by the regulatee size, i.e., whether participants decide only for themselves (*self*), for themselves and one other person (*group2*), or for themselves and three other individuals (*group4*). Panel A of Figure 6 reports the demand for interventions in dependence of regulatee size, given the PEET takes place in the same session. I observe that in case of an increase in regulatee size, the demand curve

shifts out. The shift in demand is particularly pronounced at prices between -2€ and 0€. Testing for statistical differences confirms the rise in the demand for interventions if one other participant (M-W U test, p=0.00493) or three other participants (M-W U test, p=0.0183) are affected by the intervention. This is summarized in the following result:

RESULT 5: *If other participants are also affected by the intervention, the demand for interventions in the PEET increases significantly.*

Figure 6: Demand for interventions by regulatee size

(a) Demand for interventions in treatment 'immediate' **(b)** Demand for interventions in treatment 'delay'



Note: The demand curve shows the share of participants, whose negative willingness to accept to implement an intervention averaged across interventions at difference prices. The solid line shows the demand for interventions in the 'self' treatment and the dashed lines indicate the demand for interventions in the treatments 'group2' and 'group4'.

Table 8 shows the effect of increases in the regulatee size on the average demand for interventions using OLS regression models. By means of the regression, I additionally control for the influence of a range of covariates. From the first column, the effect of increases in the regulatee size can be observed through the coefficients of *Group2* and *Group4*. While both effects are positive, the effect for *Group2* is larger and weakly significant (p=0.0814, Table 8). The coefficient of *Group4* ranges close to zero and is insignificant (p=0.6865, Table 8). This is only partly in line with Prediction 6, as demand does not monotonically increase with regulatee size as hypothesized. In addition to the analysis of regulatee size effects on the entire sample, I focus on the behavior of conditional cooperators within the regulatee size dimension. In Table 8 – column 1, the corresponding indicator (*CC*) is positive but not significant (p=0.1700, Table 8),

Table 8: OLS-Regression table on the effect of increasing the regulatee size on demand for interventions

	Dependent variable:		
	Demand for Interv.		
	(1)	(2)	(3)
Group2	0.419^{+}	0.517	-0.378
	(0.236)	(0.401)	(0.620)
Group4	0.077	-0.313	-1.262^{+}
	(0.225)	(0.393)	(0.673)
Group2 x Cond.Contr.		-0.128	1.184^{*}
		(0.432)	(0.592)
Group4 x Cond.Contr.		0.457	1.382^{*}
		(0.392)	(0.670)
Cond. Contr.	0.280	0.202	-0.591
	(0.198)	(0.278)	(0.458)
Uncond. Contr	0.006	-0.019	-0.214
	(0.426)	(0.423)	(0.694)
Constant	-3.955^{**}	-3.806^{**}	-6.684^{**}
	(1.320)	(1.326)	(2.437)
Control Variables	X	X	X
Above median patern.			X
Observations	802	802	305
R^2	0.108	0.112	0.331

Note: Standard errors are robust and clustered on an individual level. Information on the control variables can be retrieved from Table A1 in Appendix A. The dependent variable reports the negative WTA (measured in Euros) to implement intervention instead having no intervention in the PEET. The entire regression Table is displayed in Table A15 in the Appendix. $^{+}$p<0.1; *p<0.05; **p<0.01; ***p<0.001

suggesting a slight tendency of conditional cooperators to have a higher demand for interventions in general. To investigate the effect of conditional cooperators' choices on the demand for interventions as the regulatee size increases, column 2 adds two interaction terms, respectively. The coefficients for the interaction terms reveal that conditional cooperators do not systematically increase their demand for an intervention given others are affected by the intervention (p=0.8116, p=0.2453, Table 8). Yet, in column three, I repeat the estimation for a sub-sample of participants who tend to be paternalistic.[25] I observe that paternalistic conditional cooperators have a significantly higher demand for interventions than other participants as the regulatee size increases (p=0.0464, p=0.0399, Table 8). Furthermore, for this subgroup, the demand tends to increase the more regulatees are affected by the intervention (Group2 x CC vs. Group4 x CC, p=0.1727, Table 8). Hence, this result suggests that conditional cooperators' demand for interventions responds to increases in regulatee size only if they have paternalistic attitudes, i.e., if

[25]The participants in this subsample rank above the median within the paternalism parameter, which was inquired in the post-questionnaire (see Table A1 in Appendix A).

they do not refrain from imposing constraints on others' behavior.

Table 9 applies the same models compared to Table 8, but differentiates by the demand for the particular intervention. In columns 1, 4 and 7, I observe the variations in demand due to an increase in regulatee size by one other participant (*Group2*) and three other participants (*Group4*) for 'Nudge', 'Monetary Incentive', and 'Punishment'. The coefficients show that in the case of 'Nudge' and 'Punishment' demand increases if regulatee size is increased (gr2: p=0.1806, p=0.0912; gr4: p=0.0092, p=0.3434, Table 9). However, comparing the coefficient of 'Group2' and 'Group4' reveals that the demand for 'Nudge'consistently shifts out with regulatee size, whereas the demand for 'Punishment' is significantly lower when three other participants are affected by the intervention compared to only one other person (Chi-square test, p=0.0048). Additionally, the demand for 'Monetary Incentives' varies only marginally when others are affected by the intervention as well (gr2: p=0.6334; gr4: p=0.9128, Table 9). This suggests that Prediction 6 can only be confirmed for the demand for 'Nudge'.

Table 9: OLS-Regression table on the effect of increasing the regulatee size on demand for 'Nudge', 'Monetary Incentive' and 'Punishment'

	Dependent variable:								
	Demand for Nudges			Demand for Mon. Inc.			Demand for Punishment		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Group2	0.477	1.131*	−0.132	0.173	−0.732	−2.500*	0.641+	1.209+	1.549
	(0.327)	(0.484)	(0.867)	(0.352)	(0.587)	(1.008)	(0.373)	(0.689)	(1.094)
Group4	0.710**	0.653	−0.850	0.032	−0.982	−2.221*	−0.475	−0.584	−0.642
	(0.270)	(0.518)	(0.821)	(0.329)	(0.657)	(0.957)	(0.343)	(0.616)	(1.026)
Group2 x Cond.Contr.		−0.815+	1.255		1.109+	3.878***		−0.709	−1.608
		(0.495)	(0.821)		(0.629)	(0.939)		(0.691)	(1.043)
Group4 x Cond.Contr.		0.062	1.898*		1.198+	2.464**		0.123	−0.087
		(0.514)	(0.833)		(0.667)	(0.910)		(0.602)	(1.013)
Cond. Contr.	0.052	0.263	−0.791	0.018	−0.585	−2.203**	0.742*	0.908*	1.308+
	(0.245)	(0.359)	(0.552)	(0.311)	(0.396)	(0.679)	(0.292)	(0.411)	(0.760)
Uncond. Contr	−0.380	−0.369	−0.916	−0.679	−0.769	−1.321	1.073+	1.079+	1.640+
	(0.436)	(0.429)	(0.594)	(0.717)	(0.706)	(1.026)	(0.596)	(0.601)	(0.941)
Constant	−1.621	−1.763	−2.558	−1.989	−1.280	−2.173	−4.665**	−4.760**	−13.048***
	(1.451)	(1.412)	(2.777)	(2.023)	(2.014)	(4.139)	(1.669)	(1.706)	(3.523)
Control Variables	X	X	X	X	X	X	X	X	X
Above median patern.			X			X			X
Observations	802	802	305	802	802	305	802	802	305
R^2	0.119	0.127	331	0.103	0.114	0.244	0.186	0.190	0.322

Note: Standard errors are robust and clustered on an individual level. Information on the control variables can be retrieved from Table A1 in Appendix A. The dependent variable reports the negative WTA (measured in Euros) to implement an intervention in the PEET. The entire regression Table is displayed in Table A18 in the Appendix. $^{+}$p<0.1; *p<0.05; **p<0.01; ***p<0.001

The demand for interventions of conditional cooperators is analyzed through interaction terms with the treatment indicators in columns 2, 5, and 8. The coefficients reveal that in the case of 'Nudge' and 'Punishment', conditional cooperators tend to reduce their demand for interven-

tions given an increase in regulatee size (gr2: p=0.0936, p= 0.3422; gr4: p=0.7707, p=0.8231, Table 9). In contrast, conditional cooperators significantly increase their demand for 'Monetary Incentives' (gr2: p=0.0764; gr4: p=0.0717, Table 9). The estimates are more consistent across the different regulatory devices when analyzing the subsample of paternalistic participants in columns 3, 6, and 9. While the demand of paternalistic conditional cooperators for 'Nudge' increases significantly when three additional regualtees are affected by the intervention (gr4: p=0.0336, Table 9), the demand of these participants is the most responsive towards 'Monetary Incentive' as regulatee size increases (gr2: p=0.0001, p=0.0097, Table 9). Although the demand of paternalistic conditional cooperators is insignificantly negative for 'Punishment', the results in Table A17 in Appendix A.2 demonstrate that the interaction terms become positive and significant if I omit participants, who have a relatively low demand for 'Punishment' themselves (gr2: p=0.3956; gr4: p=0.0212, Table A17). Hence, these results partly confirm Prediction 7 since conditional cooperators increase their demand for an intervention imposed on others if they have paternalistic attitudes and if they themselves have a sufficiently high demand for the intervention. The behavior of conditional cooperators in demanding interventions can be summarized to:

RESULT 6: *Conditional cooperators have a higher demand for interventions than other cooperation types as the regulatee size increases given they are not avers towards paternalizing others.*

Similar to the change in the timing of the PEET in section 3.3, I calculate the welfare effects of having additional regulatees being affected by the interventions. The results show that having one additional regulatee being affected by the own preferences for interventions increases consumer surplus by 8.40 percent while having three other regulatees being affected decreases consumer surplus by 24.24 percent. Correspondingly, the respective welfare equivalent subsidy for imposing regulation also on one other regulatee amounts to 0.11€ and -0.35€ for three other regulatees. The modest or even negative welfare effect of adding other regulatees is largely driven by the demand responses when adding additional regualtees in the 'Punishment' treatment (see Appendix C.2).

3.5 Demand for interventions and preferences for environmental policies

The findings from subsection 3.2 confirmed that a significant share of participants actively demand interventions targeting pro-environmental behavior in the experiment. To analyze whether this demand translates into actual preferences for environmental policies, I investigate to which degree the choices within the experiment coincide with actual environmental policy preferences.

In particular, since subsections 3.3 and 3.4 have shown that the individual demand for interventions is likely to vary with the implementation time of the PEET and the number of other regulatees, I separately analyze the demand for interventions in the treatments 'immediate x self', 'immediate x goup', and 'delay x self' with respect to their capacity to explain individual preferences for actual environmental policies.

To test the relation between participants' demand for interventions in the experiment and their preferences for environmental policies, I elicited their regulatory preferences in the fields of household energy use, car usage, airplane usage, and manure appliance in the post-questionnaire. The respective environmental policies to choose from comprised no regulation, public campaigns to influence social norms, subsidies for eco-friendly alternatives, taxes, and bans (see Table A1 in Appendix A). These choices correspond to the interventions in the experiment as no regulation represented the 'Voluntary Scheme', public campaigns resembled the 'Nudge', subsidies were linked to 'Monetary Incentives', and taxes are associated with 'Punishments'. [26]

Table 10 reports the correlation between the demand for the different intervention schemes in the treatment 'immediate x self' and the respective environmental policy preferences aggregated across fields. The dependent variables are given by the frequency of preferring a certain regulation across the four environmental policy fields. In column one, this is given by the frequency of preferring no regulation. I observe that participants with a higher demand for the 'Voluntary Scheme' and the 'Nudge' more frequently prefer to not regulate environmental behavior in actual real-life domains (p=0.0899, p=0.0322, Table 10). In the second column, the demand for interventions is regressed on preferences for information campaigns to influence social norms. The coefficients reveal a positive correlation between the demand for 'Nudge' and the preference to regulate actual environmental behavior through norm interventions (p=0.0315, Table 10). Interestingly, also participants who have a higher demand for 'Punishment' show an increased preference for norm interventions (p=0.0413, Table 10). The third column uses the preferences for subsidies as a dependent variable. I observe that higher levels of demand for 'Monetary Incentives' in the experiment are significantly positively correlated with preferences for subsidies to influence pro-environmental behavior (p=0.0156, Table 10). The last two columns show the correlation between the demand for interventions in the experiment and the preferences for taxes or bans as environmental policies. The results entail no significant positive coefficients but reveal that increased demand for the 'Voluntary Scheme' leads to lower preferences for the implementation of taxes (p=0.0976, Table 10). Also, demanding monetary incentives in the PEET is negatively correlated with the preference for bans to adjust environmental behavior (p=0.0549, Table 10). Thus, with the exception of the demand for 'Punishment', the analysis showed a positive correlation between the demand for interventions in the experiment and the preferences for

[26] Bans are added as an additional policy instrument to guarantee comprehensive coverage of regulatory measures.

their environmental policy equivalents.

Table 10: Correlation between demand for interventions in the treatment 'immediate x self' and preferences for environmental policies

	Dependent variable:				
	Pref. for No regulation	Pref. for information campaigns	Pref. for subsidies	Pref. for taxes	Pref. for bans
Demand for Volun. Scheme	0.260^{+}	0.166	0.214	-0.358^{+}	-0.283
	(0.151)	(0.128)	(0.323)	(0.213)	(0.219)
Demand for Nudge	0.078^{*}	0.066^{*}	-0.044	-0.057	-0.043
	(0.036)	(0.030)	(0.076)	(0.050)	(0.052)
Demand for Mon.Inc.	-0.016	-0.009	0.172^{*}	-0.055	-0.092^{+}
	(0.033)	(0.027)	(0.069)	(0.046)	(0.047)
Demand for Punishment	0.033	0.051^{*}	-0.070	-0.032	0.017
	(0.029)	(0.025)	(0.062)	(0.041)	(0.042)
Constant	0.764	0.293	4.427^{+}	-0.697	-0.787
	(1.150)	(0.969)	(2.452)	(1.620)	(1.661)
Observations	105	105	105	105	105
R^2	0.496	0.338	0.307	0.416	0.369
Adjusted R^2	0.240	0.002	-0.045	0.120	0.049
Note:					*p<0.1; **p<0.05; ***p<0.01

Since environmental policies are imposed on oneself as well as other individuals, preferences for environmental policies might be better resembled by the demand for interventions for the own group. Therefore, Table 11 assesses the correlation between the demand for interventions in the treatment 'immediate x group' with the preferences on environmental policies. The results show that the only significant correlation between the demand for interventions and preferences for policy preferences is found when analyzing the preferences for no regulation in column one. Here, I observe a strong, positive, and highly significant correlation between demand for the 'Voluntary Scheme' within the experiment and a preference for not applying regulation to influence actual environmental behavior (p=0.0010, Table 11). Additionally, there is a comparably small but significant positive correlation between the demand for 'Monetary Incentives' and the preference to not regulate environmental behavior (p=0.0184, Table 11). The findings reveal that the demand for interventions on a group level serves as a better predictor of whether participants are in favor or against the implementation of environmental policies to regulate behavior compared to the demand for interventions on an individual level. However, in terms of predicting which policy measure is preferred by participants, the demand for interventions on a group level entails a lower explanatory power than the individual demand.

Table 11: Correlation between demand for interventions in the treatment 'immediate x group' and preferences for environmental policies

	Dependent variable:				
	Pref. for No regulation	Pref. for information campaigns	Pref. for subsidies	Pref. for taxes	Pref. for bans
Demand for Volun. Scheme	0.334***	−0.029	−0.233	0.092	−0.164
	(0.096)	(0.149)	(0.317)	(0.208)	(0.243)
Demand for Nudge	0.045	0.032	0.031	0.006	−0.114
	(0.033)	(0.050)	(0.108)	(0.071)	(0.082)
Demand for Mon.Inc.	0.061*	−0.060	−0.111	0.081	0.029
	(0.025)	(0.039)	(0.084)	(0.055)	(0.064)
Demand for Punishment	−0.006	−0.001	−0.012	−0.004	0.023
	(0.021)	(0.033)	(0.070)	(0.046)	(0.053)
Constant	2.783**	−0.289	0.222	0.809	0.474
	(0.835)	(1.288)	(2.751)	(1.804)	(2.110)
Observations	105	105	105	105	105
R^2	0.496	0.338	0.307	0.416	0.369
Adjusted R^2	0.240	0.002	−0.045	0.120	0.049
Note:					*p<0.1; **p<0.05; ***p<0.01

Implementing environmental policies is a process that requires time. Thus, when forming their preferences on environmental regulation, individuals might consider regulating their future-self instead of their present-self. To analyze whether the demand for regulating the future-self performs better at explaining actual environmental policy preferences than the demand to regulate the present-self, I regress the demand for interventions in 'delay x self' on participants' preferences for environmental policies in Table A21 in Appendix A.2. Analyzing the results shows that there is vastly no significant correlation between these variables.[27] The latter result confirms the insufficiency of the demand for interventions to regulate the future-self as a predictor for preferences for environmental policy preferences.

4 Conclusion

I investigate whether and why individuals demand environmental regulation. The investigation is structured in four steps. First, I experimentally analyze drivers of demand for three different

[27]The only significant coefficient concerns the correlation between demand for punishment and preferences for taxes to regulate environmental behavior. However, this correlation is significant but negative, indicating that high demand for punishment to regulate the future-self is associated with a lower preference for environmental taxes (p=0.0087, Table A21).

interventions, i.e., 'Nudge', 'Monetary Incentive', and 'Punishment' given individual characteristics and preferences. Second, I assess whether individuals use interventions as commitment devices to constrain themselves to future pro-environmental behavior. Third, I investigate to which degree the demand for interventions is dependent on other participants being exposed to the interventions as well. Fourth, I analyze whether the experimentally elicited demand for interventions can predict individuals' actual environmental policy preferences in different fields.

To elicit the demand for interventions, I use a real-effort task containing pro-environmental incentives. Prior to the conduction of the task, participants are asked to state their preferences for the interventions designed to enhance pro-environmental effort provision in an incentive-compatible process. The interventions consist of a social comparison nudge, monetary incentives, and a punishment scheme. I find that a substantial fraction of participants demands interventions given the implementation is free of charge, ranging between one and two-thirds of the sample. This demand is subject to substantial heterogeneity across participants. An analysis of drivers of this demand provides insights into the motives of participants. While the demand for 'Monetary Incentive' is mostly driven by the confidence of expecting monetary returns, the demand for 'Punishment' is influenced by self-control capacities and altruistic concerns. An analysis of individuals with a relatively low demand to implement an intervention reveals the barriers to imposing environmental regulation. A low expectation of the own performance and the efficacy of the intervention pair with concerns to suffer monetary losses. Apart from these rational considerations, the attitude of impatience and an unwillingness to behave conditionally cooperative, i.e., contributing a fair share to the environmental well-being, represent further barriers to the implementation of pro-environmental regulation.

The experimental design comprises exogenous treatment variation on the time-dimension and the regulatee-size-dimension. To implement variation on the time-dimension, I exogenously postpone the pro-environmental task by a week. As a response, participants tend to increase demand slightly. This rise in demand is largely driven by participants who are sophisticated in behaving less prosocially than intended. These individuals actively use interventions to commit to future pro-environmental behavior with a particularly strong effect in the case of 'Punishment'. These findings provide practical implications for the implementation of environmental policies. As shown by Werthschulte and Löschel 2021, time-inconsistent individuals are more likely to not behave environmentally friendly. However, the results show that given sophistication they are willing to implement a remedy to this by regulating their behavior. Yet, since this requires a certain time gap between the information on the regulation and its implementation, a strategy to announce environmental policies early in advance could enhance the approval rates of this subgroup of individuals.

On the regulatee-size-dimension, I implement exogenous treatment variation by altering the

number of other participants affected by the individual decisions on interventions. The respective responses in demand reveal that increasing the number of regulatees has the potential to raise the demand for interventions. I identify that the positive shift in demand is largely driven by conditional cooperators, who are less hesitant to constrain other choice sets, i.e., to act paternalistically. This also indicates that non-paternalistic individuals obtain a disutility from constraining the choice sets of others by imposing interventions on them. Hence, the findings highlight that participants internalize the effect of interventions on others. This has two implications for the approval of environmental regulation. First, the importance of raising the expectation about the compliance of other individuals with environmental policies, and second, that a certain share of individuals might oppose environmental policies by internalizing the negative impact this might pose on others.

In the last part of the study, I analyze the link between the demand for interventions in the experiment and individual preferences for actual environmental policies. Investigating this relationship shows that, apart from the preferences for taxes, the preferences for environmental policies positively correlate with the demand for the respective intervention-equivalents in the experiment. Exploiting the treatment variation allows for a more detailed analysis of the process of preference formation. Additionally, I compare the demand for interventions that also affects others with individuals' environmental policy preferences. I find that the demand for an intervention that is imposed on the own group enables a better prediction of whether a certain behavior shall be regulated or not. Thus, in a public discussion on the necessity to put a certain behavior under regulation, emphasizing the required common societal effort might increase the approval for regulation. In contrast, due to the mismatch of the demand for delayed interventions and participants' actual policy preferences, individuals seem not to consider the benefit of commitment in their preferences for environmental regulation.

All these findings can contribute to an understanding of the individual approval of particular environmental policies. Although individuals seem to demand monetary incentives and punishments out of different motives, pecuniary interventions are likely to be less favored by individuals out of fear of high costs due to low levels of expected own performance. This not only concerns own losses, but also the internalization of possible losses by others. Although this would speak in favor of the adoption of nudges as environmental policies, the results also reveal that those individuals, who resist regulation the most, behave less conditionally cooperative. This could render nudges like the social comparison nudge less effective since they are meant to influence behavior through social norms and the disclosure of other's environmental effort.

To draw implications from the experimental results, however, one should consider that the subject pool applied is relatively homogeneous. Therefore, additional insights are required to

test whether the results hold for the population as a whole. Additionally, the measured relative demand within this experiment for the respective intervention must be understood as a proxy for preferences for regulation. This is mostly due to the design of reward and punishment schemes within the experiment, which can vary in their degree of compulsion depending on calibration. Hence, further evidence is required to obtain clear insights into the correlation between demand for interventions to enhance pro-environmental behavior and actual preference for environmental regulation.

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Appendix A

A.1 Variable descriptions

Table A1: Variables inquired in post-questionnaire

Questions	Content	Consequ.
Efficacy	Whether planting trees is a effective measure for environmental and climatic well-being	No
External Pressure	Perceptions on external pressure in versions of the decoding task. Inquired for each intervention and 'NoIntervention'	No
Performance Beliefs	Prior to PEET, participants are asked to indicate their beliefs on the percentage of other participants, who perform worse than them in the PEET.	Yes
Difficulty	Perception on difficulty level of decoding task	No
Cond. Coop.	Participants with a conditionally cooperative strategy in the public goods game. The conditional cooperation parameter is calibrated similar to Fischbacher and Gachter (2010), using the Spearman's Roh parameter, indicating the correlational relationship between decisions given average contributions by others ranging from zero to 20.	Yes
Uncond. Coop.	Participants with an unconditionally cooperative strategy in the public goods game (always contributing entire endowment)	Yes
Altruism	Altruism measured according to Falk et. al. (2018)	
Environm. Attitudes	9 questions on environmental attitudes retrieved from the short version of the New Ecological Paradigm.	No
Trust	Three questions about trust were raised in the questionnaire comprising trusting other people in general, carefulness when encountering strangers and reliance on others.	No
Warm Glow	Inquires whether contributing to a 'good cause' results in a positive feeling.	No
Monetary Dicount Rate	In Session 1, participants are asked whether they would like to receive 5€ on the same day and receive a reduced payoff in Session 2 of (5€+e). e was varied given 11 options ranging from 0 to 2.5€.	Yes
$\delta_{prosocial}$	Prosocial discount rate. Participants are asked on the share of their remuneration, which they would like to donate to charity. Since this question was asked twice, in Session 1 and 2, I can use the difference to determine the discount rate of prosocial behavior.	Yes
$\hat{\delta}_{prosocial}$	Awareness on prosocial dicount rate. Participants are asked on the share of their remuneration, which they would like to donate to charity in Session 1 and had the option to decide again in Session 2. After their choice in Session 1, I asked on their beliefs on their choice in Session 2. The difference between Session 1 decision builds the variable's value.	Yes

δ_{effort}	Discount rate of effort. Participants are asked on the preferred number of tasks to solve in an unrelated real-effort task. Since this question was asked twice, in Session 1 and 2, I can use the difference to determine the discount rate of effort provision.	Yes
$\hat{\delta}_{prosocial}$	Awareness on discount rate of effort. Participants are asked on the preferred number of tasks to solve in an unrelated real-effort task in Session 1 and had the option to decide again in Session 2. After their choice in Session 1, I asked on their beliefs on their choice in Session 2. The difference between Session 1 decision builds the variable's value.	Yes
Paternalism	Participants are asked whether they would discard options from another participant's choice set in the question, in which the monetary discount rate is elicited	No
Paternalism Approval	Paternalism check using policy approval questions: similar to Ambuehl et al. 2019	No
Member	Member of environmental or prosocial group	No
Donation	Donations made to charitable organisations when provided with the donation option at the end of the experiment.	No
Past Donation	Donations made to charitable causes in the prior 12 months to the study	No
Risk	Risk preferences according to Falk et al. 2018	No
Patience	Time preferences according to Falk et al. 2018	No
Self Control	Self-control according to Tangney et al. (2004)	No
Alcohol Consumption	Amount of alcoholic beverages consumed in a week on average.	No
Tobacco Consumption	Consumption of Tobacco ranging from strict non-smoker to heavy smoker.	No
BMI	Classification of own weight compared to height based on a BMI scale.	No
Self Control Observed	Summing answers on three questions concerning alcohol consumption, smoking behavior and BMI.	No
Loss Aversion	Loss aversion measured according to Karle et al. (2015)	Yes
Beliefs on Effectiveness	Participants are asked to guess the time former participants required to solve the tasks for each intervention, provided with the information that the overall average was at 24 seconds per task.	Yes
Motivation	Prior to the start of the PEET participants are asked on their motivation to work on the PEET, ranging from 0% to 100%.	No
Motivation development	Prior to the start of the PEET participants are asked on their beliefs of the development of their motivation to work on the PEET (0% to 100%), given they have worked 0, 120, 240, 360 and 480 seconds on the PEET. The fitted regression line of these points is used as the variables value.	No
Other	Decide for another person in the study by ranking the interventions. The first rank is implemented with highest probability. The implementation probability descends for the other ranks	Yes

Self	Only in group treatment: Participants are asked to rank the interventions assuming that they would decide only for themselves, having no other person affected by their choice	No
Policy Pref.	Preferences for environmental regulation in real life contexts: energy consumption, car purchase, airplane flights, and agricultural policy. **Energy consumption:** "In your opinion, which regulation should the state most likely apply to increase energy-saving behavior to protect the environment in German households?" **Car usage:** "In your opinion, which regulation should the government apply to encourage the purchase of environmentally friendly passenger cars in Germany?" **Airplane flights:** "In your opinion, which regulation should the government apply to reduce the number of domestic air travels in order to protect the climate?" **Agricultural policy:** "The application of fertilizer to agricultural land increases yields and tends to lower prices for agricultural products. However, the overfertilization of agricultural land in Germany leads to nitrogen contamination of groundwater, which is particularly harmful to young children. In your opinion, what regulation should the state most likely apply to reduce nitrogen pollution in groundwater?"	No
Female	Gender: Coded 1 if female	No
Age	18-100 allowed	No
Mother tongue	Whether German is first language	No
Party	Which political party to vote for	No
Income	Inquired in intervals of 500€	No

Note: Screenshots of the experimental inquiry of the control variables are provided in the Supplementary Material 1.1 and 1.2.

A.1.1 Discounting of prosociality

The theoretical model in section 2.5 predicts the relative discounting of warm-glow utility to be highly inflicted with choices of interventions. Therefore, time-inconsistencies in decisions involving warm-glow utility are inquired as a separate measure. Following Andreoni and Serra-Garcia (2019), I assess how participants discount warm-glow utility relative to monetary-discounting by providing the option to contribute a share of the payoff to charitable organizations.[28] To elicit time-inconsistencies in prosocial decisions, participants are asked twice whether and which share of their remuneration they would like to donate to charitable organizations (see Figure B7 in Appendix B).[29] The first inquiry takes place in Session 1, while the second inquiry occurs at the end of Session 2.[30] To determine participants' time-inconsistency in prosocial decisions, I take the difference between amounts

[28]Participants can allocate their donations to three different charities, i.e., the World Wildlife Fund (WWF), the Nature and Biodiversity Conservation Union (NABU), and the Foodbank Mannheim. Details on the charities and the donation option are provided in Appendix B

[29]Screenshots of the experimental inquiry of the discounting behavior of prosociality is provided in the Supplementary Material 1.1 and 1.2.

[30]In this second decision, I remind participants of their decision in the first week. Also, before taking the decisions, participants are informed that it will be randomly selected whether their Session 1 donation decision or their Session

donated in Session 1 and amounts donated in Session 2. In addition to this, I identify participants' sophistication on their time-inconsistencies in prosocial decisions by asking for their beliefs about their Session 2 donation decision. This takes place directly after having taken the Session 1 donation decision. The difference between the donation decision in Session 1 and the beliefs on amounts to be donated in Session 2 determines participants' sophistication on their relative discounting of warm-glow utility.

A.1.2 Discounting of effort provision

Participants' time-inconsistencies in effort provision represent a relevant explanatory variable in this study. Based on the model in section 2.5, I expect that stronger relative discounting of effort provision increases the demand for an intervention. To measure how participants discount effort, I apply an approach which constitutes a simplified version of the approach used in Augenblick and Rabin (2019). Its major component is given by a real-effort task, which takes place at the end of Session 2.[31] This real-effort task consists of a 100-cell table filled with letters (see Figure B6 in Appendix B). Participants' are asked to find all the letters 'K' in the table and state the summed amount in a text-box below the table in order to proceed. Thus, the concept and set-up of this task differ from the exercise in the PEET.[32] The possible number of tasks participants can choose to work on spans from zero to 50 tasks. Participants are informed that they receive a remuneration for each correctly solved task. Similar to Augenblick and Rabin (2019), I inquire the preferred number of tasks to work on at five different remunerations. Hence, participants are asked to indicate their preferred amount of tasks given the remuneration is at 0.06€, 0.08€, 0.10€, 0.12€, or 0.14€ per task. To identify inconsistencies in choices of effort provision in the task, participants must make these choices in Session 1, after having decided on their preferences on the interventions, as well as in Session 2, before the task is implemented.[33] To obtain a measure of how participants discount effort provision compared to monetary income, I take the differences between the preferred number of tasks in Session 1 and Session 2. Additionally, I elicit participants' sophistication on the relative discounting of effort provision by implementing a belief elicitation question after the first choice in Session 1. The decisions only differ from the actual decisions on the preferred number of tasks as participants are asked to predict their choices in the second decision in week two.[34] Consequently, sophistication on the relative discounting of effort provision is measured by the difference in actual work decisions in Session 1 compared to the predictions on work decisions, which are to be made in Session 2.

2 donation decision becomes payoff relevant. Since participants are not aware of the definite amount to be paid out, they decide on the share of the payoff to be donated (Participants are aware that the average remuneration is at 20€per participant)

[31] Participants are aware that the real-effort task takes place with a probability of 10%

[32] Screenshots of the experimental inquiry of effort provision in the additional task is provided in the Supplementary Material 1.1 and 1.2.

[33] In this second decision, I remind participants on their first week decisions. Also, at each time, participants are made aware that it is randomly decided whether one of the first week's choices or the second week's choices becomes relevant for the real-effort task.

[34] This belief elicitation is not incentivized to avoid that participants intend to comply with their predicted decisions in week two in order to receive a monetary reward.

A.2 Estimates

Table A2: Comparison of selected version for the PEET between attrition sample and non-attrition sample

		Volunt. Scheme	Nudge	Monetary Incentive	Punishment
Attrition sample	Total	6	5	5	2
	Percentage	0.33	0.28	0.28	0.11
Non-attrition sample	Total	131	133	90	49
	Percentage	0.33	0.33	0.22	0.12

Table A3: Effects of interventions on effort provision in the PEET

	Dependent variable:					
	Effort level (in tasks solved)					
	(1)	(2)	(3)	(4)	(5)	(6)
Nudge	1.505*	2.510*	−0.021	−0.199	1.324+	2.697**
	(0.708)	(0.968)	(1.395)	(1.559)	(0.681)	(0.951)
Monetary Inc.	1.335*	2.686***	−0.160	−0.748	1.055+	2.247**
	(0.636)	(0.746)	(1.325)	(1.444)	(0.619)	(0.743)
Punishment	−0.429	−0.061	−1.330	−1.240	−0.900	0.136
	(0.865)	(1.386)	(1.670)	(1.783)	(0.829)	(1.361)
Donation				−0.112	−0.072	0.013
				(0.126)	(0.067)	(0.096)
Difficult				1.148	1.365***	1.170*
				(0.879)	(0.408)	(0.541)
Altruism1				−0.497	−0.076	0.062
				(0.304)	(0.122)	(0.156)
Altruism2				−0.005	−0.002	0.001
				(0.004)	(0.002)	(0.003)
Environ. Pref.				2.150	1.138+	0.817
				(1.388)	(0.655)	(0.872)
Trust				0.069	−0.472	−0.952+
				(0.768)	(0.369)	(0.501)
Warm Glow				0.762	0.141	−0.101
				(0.688)	(0.302)	(0.391)
Paternalism				−0.032	−0.002	−0.037
				(0.080)	(0.034)	(0.046)

Approval$_{paternalism}$	−1.333	−0.120	0.720
	(1.173)	(0.510)	(0.645)
Social$_{organisation}$	−0.893	−1.446**	−0.598
	(1.304)	(0.553)	(0.710)
Risk pref.	−0.042	0.027	0.034
	(0.094)	(0.040)	(0.051)
Patience	0.074	0.009	−0.003
	(0.053)	(0.025)	(0.034)
Self control	1.416	0.548	0.860
	(1.120)	(0.531)	(0.699)
Loss aversion	−0.007	−0.108	−0.170
	(0.529)	(0.324)	(0.510)
Female	1.438	1.002^{+}	0.740
	(1.324)	(0.581)	(0.797)
Age	0.056	−0.085^{+}	−0.134*
	(0.138)	(0.047)	(0.054)
Language	4.096*	0.058	−2.498*
	(1.673)	(0.803)	(1.121)
Vote green	1.791	−0.312	−0.890
	(1.563)	(0.713)	(0.922)
Vote left	0.175	0.908	1.162
	(1.533)	(0.698)	(0.903)
Income	−0.001	0.0003	0.001
	(0.001)	(0.0004)	(0.0005)
Smoke	0.321	−0.434	−0.642
	(0.883)	(0.417)	(0.525)
Alc consumption	0.036	0.234	0.426^{+}
	(0.426)	(0.184)	(0.238)
BMI	1.774	−0.333	−0.883
	(1.459)	(0.663)	(0.890)
Work incon.	0.016	0.005	0.006
	(0.011)	(0.005)	(0.006)
Work incon. aware	0.010	0.015^{+}	0.007
	(0.021)	(0.008)	(0.011)

Social incons.				−0.012	−0.008	−0.002
				(0.029)	(0.016)	(0.022)
Social incons. aware				0.026	0.011	0.029
				(0.069)	(0.028)	(0.035)
Motivation				−0.013	0.028*	0.037**
				(0.028)	(0.011)	(0.014)
Moti development				−0.005	0.017	−0.017
				(0.103)	(0.043)	(0.055)
Time pref.				−0.353	−0.115	−0.239
				(0.648)	(0.314)	(0.414)
Perform. belief				0.064*	0.054***	0.044**
				(0.030)	(0.013)	(0.016)
Cond. Contr.				2.046	1.767**	1.513+
				(1.393)	(0.663)	(0.884)
Uncond. Contr				2.844	2.643*	4.987**
				(2.819)	(1.320)	(1.739)
	23.695***	23.061***	24.382***	0.803	11.101*	12.284*
	(0.452)	(0.529)	(1.000)	(10.475)	(4.550)	(5.869)
Observations	403	214	134	134	402	214
R^2	0.022	0.071	0.006	0.314	0.218	0.349
Adjusted R^2	0.015	0.058	−0.017	0.059	0.140	0.217

Note: *p<0.1; **p<0.05; ***p<0.01

Table A4: Differences in demand for interventions between time dimension treatments at different prices (decision for self)

Price	Treatment		p-value
	Immediate	Delay	
-0.67	0.37	0.43	0.2068
-0.57	0.30	0.37	0.1647
-0.54	0.28	0.36	0.0999
-0.5	0.26	0.36	0.0560
-0.42	0.25	0.35	0.0547
-0.4	0.25	0.34	0.0728
-0.34	0.25	0.33	0.0954
-0.24	0.25	0.32	0.1231
-0.17	0.22	0.31	0.0677
-0.16	0.21	0.31	0.0486
-0.12	0.20	0.31	0.0340
-0.09	0.20	0.30	0.0469
-0.07	0.20	0.29	0.0637
0	0.20	0.27	0.1119

Note: Difference in demand for interventions between the treatments 'immediate' and 'delay' at different prices. Column 1 shows the prices in Euros, columns 2 and 3 show the share of participants willing to implement an intervention at these prices, and column 4 shows the respective significance level for the difference between treatments of an M-W U test.

Table A5: Differences in demand for interventions between time dimension treatments at different prices (decision for group)

Price	Treatment		p-value
	Immediate	Delay	
0.51	0.12	0.16	0.1916
0.83	0.09	0.16	0.0607
0.96	0.08	0.15	0.0547
1	0.08	0.14	0.0802
1.01	0.08	0.11	0.2214

Note: Difference in demand for interventions between the treatments 'immediate' and 'delay' at different prices. Column 1 shows the prices in Euros, columns 2 and 3 show the share of participants willing to implement an intervention at these prices, and column 4 shows the respective significance level for the difference between treatments of an M-W U test.

Table A6: Drivers of demand for 'Voluntary Scheme'

	Point estimate	**Unadjusted p-value**	**Point estimate LASSO model**	**Unadjusted p-value by LASSO**	**BH p-value by LASSO**
Pres. MonInc	0.1604	0.1934	0	0	.
Pres. Nudge	0.2042	0.1135	0	0	.
Pres. Punish.	0.0842	0.4598	0	0	.
Effec. MonInc	0.0074	0.4628	0.0034	0.1098	0.1849
Effec. Nudge	0.0115	0.0884	0	0	.
Effec. Punish	0.0083	0.6053	0	0	.
Effec. Voluntary	-0.0406	0.0094	-0.0086	0.0692	0.1557
Donation	0.014	0.4538	0	0	.
Donations last year	1e-04	0.424	0	0	.
Difficult	-0.0234	0.8385	0	0	.
Altruism	-0.0075	0.8228	0	0	.
Environ. Pref.	0.0951	0.6161	0	0	.
Trust	-0.1904	0.0788	0	0	.
Warm Glow	-0.0122	0.8867	0	0	.
Paternalism	0.0057	0.558	0	0	.
Approval Paternalism	-0.1677	0.2563	0	0	.
Social organisation	0.1455	0.3651	0	0	.
Risk pref.	-0.0105	0.3488	0	0	.
Patience	-0.0197	0.0047	-0.0058	0.0085	0.0254
Self control	-0.0341	0.8209	0	0	.
Self-Control obs.	0.1324	0.2957	0	0	.
Loss aversion	-0.0416	0.6436	0	0	.
Female	0.1302	0.4323	0	0	.
Age	0.0185	0.1518	0.0053	0.1911	0.2033
Language	-0.1859	0.4346	0	0	.
Vote green	0.1458	0.4793	0	0	.
Vote left	-0.064	0.7519	0	0	.
Income	2e-04	0.1116	-4e-05	0.2033	0.2033
δ_{effort}	-4e-04	0.7707	0	0	.
$\hat{\delta}_{effort}$	-0.0029	0.2471	0	0	.
$\delta_{prosocial}$	-0.0069	0.1699	0	0	.
$\hat{\delta}_{prosocial}$	0.0113	0.212	0	0	.
Motivation	0.0037	0.2693	0	0	.
Moti development	0.0026	0.8342	0	0	.
Time pref.	-0.0607	0.4932	0	0	.
Perform. belief	-0.0116	9e-04	-0.0047	-3e-05	3e-04
Cond. Contr.	-0.3716	0.0515	-0.0848	0.1506	0.1937
Uncond. Contr	0.4339	0.2275	0.1785	0.1233	0.1849
Constant	-0.1152	0.9383	0.7566	1e-04	6e-04

Note: Columns 1 and 2 report the coefficients and p-values from the OLS-regression. Columns 3 and 4 shows the coefficients and p-values of the OLS-regression including LASSO-selected variables only. Column 5 show the p-values from column 4 adjusted for multiple hypotheses bias. Information on the control variables can be retrieved from Table A1. The dependent variable reports the negative WTA (measured in Euros) to implement an intervention instead of no intervention in the PEET. $^{+}$p<0.1; *p<0.05; **p<0.01; ***p<0.001

Table A7: Drivers of demand for 'Nudge'

	Point estimate	**Unadjusted p-value**	**Point estimate LASSO model**	**Unadjusted p-value by LASSO**	**BH p-value by LASSO**
Pres. MonInc	0.092	0.5625	0	0	.
Pres. Nudge	0.2217	0.1814	0	0	.
Pres. Punish.	0.2876	0.0534	0	0	.
Effec. MonInc	-0.0084	0.3294	0	0	.
Effec. Nudge	-0.0123	0.1272	0	0	.
Effec. Punish	0.0141	0.4719	0	0	.
Effec. Voluntary	0.0136	0.4921	0	0	.
Donation	0.0217	0.3816	0	0	.
Donations last year	-1e-04	0.3743	0	0	.
Difficult	0.1883	0.2081	0	0	.
Altruism1	0.0076	0.8614	0	0	.
Environ. Pref.	-0.0984	0.6864	0	0	.
Trust	0.0827	0.5506	0	0	.
Warm Glow	-0.0546	0.6249	0	0	.
Paternalism	0.0031	0.8082	0	0	.
Approval Paternalism	0.2184	0.2503	0	0	.
Social organisation	0.0106	0.9592	0	0	.
Risk pref.	-0.0174	0.2385	0	0	.
Patience	0.0059	0.5206	0	0	.
Self control	0.01	0.9592	0	0	.
Self-Control obs.	0.172	0.2893	0	0	.
Loss aversion	-0.0256	0.8332	0	0	.
Female	0.1149	0.5928	0	0	.
Age	0.0025	0.8792	0	0	.
Language	-0.1213	0.6876	0	0	.
Vote green	-0.0235	0.9296	0	0	.
Vote left	-0.0311	0.9058	0	0	.
Income	-3e-04	0.0209	-3e-04	0.0191	0.0383
δ_{effort}	0.0035	0.0384	0	0	.
$\hat{\delta}_{effort}$	-0.0078	0.0125	0	0	.
$\delta_{prosocial}$	0.0041	0.4831	0	0	.
$\hat{\delta}_{prosocial}$	0.0058	0.5841	0	0	.
Motivation	-0.0037	0.3852	0	0	.
Moti development	-0.0072	0.6536	0	0	.
Time pref.	-0.0108	0.9251	0	0	.
Perform. belief	0.0054	0.2414	0	0	.
Cond. Contr.	-0.066	0.7895	0	0	.
Uncond. Contr	-0.7325	0.1304	0	0	.
Constant	-3.3199	0.0851	-0.0865	0.542	0.542

Note: Columns 1 and 2 report the coefficients and p-values from the OLS-regression. Columns 3 and 4 shows the coefficients and p-values of the OLS-regression including LASSO-selected variables only. Column 5 show the p-values from column 4 adjusted for multiple hypotheses bias. Information on the control variables can be retrieved from Table A1. The dependent variable reports the negative WTA (measured in Euros) to implement an intervention instead of no intervention in the PEET. $^{+}$p<0.1; *p<0.05; **p<0.01; ***p<0.001

Table A8: Drivers of demand for 'Monetary Incentive'

	Point estimate	**Unadjusted p-value**	**Point estimate LASSO model**	**Unadjusted p-value by LASSO**	**BH p-value by LASSO**
Pres. MonInc	-0.5806	0.0033	-0.2556	0.0393	0.237
Pres. Nudge	-0.2872	0.1611	0	0	.
Pres. Punish.	-0.4125	0.025	0	0	.
Effec. MonInc	-0.0033	0.758	0	0	.
Effec. Nudge	0.0016	0.8698	0	0	.
Effec. Punish	0.0169	0.4872	0	0	.
Effec. Voluntary	0.0227	0.3521	0	0	.
Donation	-0.0113	0.7109	0	0	.
Donations last year	-2e-04	0.3061	0	0	.
Difficult	0.0935	0.6124	0	0	.
Altruism1	-0.0743	0.1682	-0.0535	0.215	0.484
Environ. Pref.	0.0064	0.9831	0	0	.
Trust	0.041	0.8108	0	0	.
Warm Glow	-0.0419	0.7617	0	0	.
Paternalism	-0.0067	0.6707	0	0	.
Approval Paternalism	0.2796	0.2335	0	0	.
Social organisation	-0.0286	0.9113	0	0	.
Risk pref.	0.0065	0.7225	0	0	.
Patience	0.0078	0.4927	0	0	.
Self control	-0.1068	0.6572	0	0	.
Self-Control obs.	0.1957	0.3291	0	0	.
Loss aversion	0.0537	0.7202	0	0	.
Female	-0.0318	0.9046	0	0	.
Age	-0.0135	0.5088	0	0	.
Language	0.0329	0.9296	0	0	.
Vote green	-0.2664	0.4185	0	0	.
Vote left	0.4174	0.1997	0	0	.
Income	0	0.9842	0	0	.
δ_{effort}	-6e-04	0.7808	0	0	.
$\hat{\delta}_{effort}$	0.0077	0.0466	0.006	0.0571	0.303
$\delta_{prosocial}$	-0.0118	0.1033	-0.0127	0.0639	0.26
$\hat{\delta}_{prosocial}$	-0.0338	0.0098	-0.033	0.0076	0.052
Motivation	5e-04	0.9274	0	0	.
Moti development	0.0139	0.4868	0	0	.
Time pref.	-0.1752	0.2187	-0.2147	0.1057	0.358
Perform. belief	0.0145	0.0107	0.014	0.0082	0.058
Cond. Contr.	0.1312	0.6673	0	0	.
Uncond. Contr	-0.6014	0.3144	-0.6168	0.2181	0.471
Constant	0.9483	0.69	-0.1482	0.784	0.784

Note: Columns 1 and 2 report the coefficients and p-values from the OLS-regression. Columns 3 and 4 shows the coefficients and p-values of the OLS-regression including LASSO-selected variables only. Column 5 show the p-values from column 4 adjusted for multiple hypotheses bias. Information on the control variables can be retrieved from Table A1. The dependent variable reports the negative WTA (measured in Euros) to implement an intervention instead of no intervention in the PEET. $^{+}$p<0.1; *p<0.05; **p<0.01; ***p<0.001

Table A9: Drivers of demand for 'Punishment'

	Point estimate	Unadjusted p-value	Point estimate LASSO model	Unadjusted p-value by LASSO	BH p-value by LASSO
Pres. MonInc	0.363	0.0574	0.2786	0.0353	0.0689
Pres. Nudge	0.2075	0.2967	0	0	.
Pres. Punish.	-0.1354	0.4474	-0.2425	0.0659	0.0806
Effec. MonInc	-0.0084	0.4199	0	0	.
Effec. Nudge	-0.0189	0.0512	-0.0177	0.0501	0.0689
Effec. Punish	-0.0157	0.5062	0	0	.
Effec. Voluntary	0.0324	0.1715	0	0	.
Donation	-0.0148	0.6182	0	0	.
Donations last year	2e-04	0.1872	0	0	.
Difficult	0.0265	0.8822	0	0	.
Altruism1	0.1234	0.0187	0.0882	0.0399	0.0689
Environ. Pref.	-0.2199	0.4518	0	0	.
Trust	0.1723	0.3004	0	0	.
Warm Glow	-0.1075	0.4225	0	0	.
Paternalism	0.023	0.1328	0.0237	0.0965	0.1061
Approval Paternalism	0.0775	0.7335	0	0	.
Social organisation	-0.0984	0.6928	0	0	.
Risk pref.	0.0045	0.7994	0	0	.
Patience	0.0221	0.0457	0.0207	0.0483	0.0689
Self control	0.6699	0.0043	0.5853	0.0056	0.0205
Self-Control obs.	-0.2637	0.1758	0	0	.
Loss aversion	0.0326	0.8229	0	0	.
Female	-0.2086	0.4184	-0.448	0.046	0.0689
Age	0.0124	0.5323	0	0	.
Language	-0.2548	0.4813	0	0	.
Vote green	-0.2679	0.4021	0	0	.
Vote left	-0.0567	0.8574	0	0	.
Income	-5e-04	0.0013	-5e-04	5e-04	0.0027
δ_{effort}	0.0018	0.3751	0	0	.
$\hat{\delta}_{effort}$	-0.0024	0.5284	0	0	.
$\delta_{prosocial}$	-0.0047	0.5012	0	0	.
$\hat{\delta}_{prosocial}$	-0.0112	0.3759	0	0	.
Motivation	-0.001	0.8423	0	0	.
Moti development	0.0031	0.871	0	0	.
Time pref.	-0.0434	0.7533	0	0	.
Perform. belief	0.0054	0.3234	0	0	.
Cond. Contr.	0.6626	0.0259	0.3587	0.1538	0.1538
Uncond. Contr	0.8015	0.1675	0	0	.
Constant	-5.1793	0.0253	-3.7027	4e-04	0.0027

Note: Columns 1 and 2 report the coefficients and p-values from the OLS-regression. Columns 3 and 4 shows the coefficients and p-values of the OLS-regression including LASSO-selected variables only. Column 5 show the p-values from column 4 adjusted for multiple hypotheses bias. Information on the control variables can be retrieved from Table A1. The dependent variable reports the negative WTA (measured in Euros) to implement an intervention instead of no intervention in the PEET. $^{+}$p<0.1; *p<0.05; **p<0.01; ***p<0.001

Table A10: Drivers of demand for 'Nudge', parsimonious model

	Dependent variable:
	Demand for Nudge
Pres. Nudge	0.152
	(0.117)
Pres. Punish.	0.214*
	(0.108)
Effec. MonInc	−0.008
	(0.008)
Effec. Nudge	−0.012
	(0.008)
Effec. Voluntary	0.020
	(0.019)
Donation	0.019
	(0.023)
Donations last year	−0.0002
	(0.0001)
Difficult	0.179
	(0.139)
Approval Paternalism	0.254
	(0.169)
Risk pref.	−0.021
	(0.014)
Income	−0.0003*
	(0.0001)
$\hat{\delta}_{effort}$	0.002
	(0.001)
$\delta_{prosocial}$	0.004
	(0.006)
$\hat{\delta}_{prosocial}$	0.001
	(0.010)
Motivation	−0.004
	(0.004)
Perform. belief	0.004
	(0.004)
Uncond. Contr	−0.660
	(0.417)
Constant	−2.305*
	(1.089)
Observations	401
R^2	0.068

*Note:*Information on the control variables can be retrieved from Table A1. The dependent variable reports the negative WTA (measured in Euros) to implement an intervention instead of no intervention in the PEET. *p<0.1; **p<0.05; ***p<0.01

Table A11: Performance under exogenously assigned intervention schemes differentiated by demand for interventions

	Dependent variable:				
	Effort				
	Voluntary Scheme	Voluntary Scheme	Nudge	Mon. Inc.	Punishment
avrg. dem.	1.096*				
	(0.516)				
dem. nudge		0.019	1.110	−0.513	0.206
		(0.360)	(1.155)	(0.499)	(0.797)
dem. mon.inc.		0.266	0.229	0.204	0.918+
		(0.315)	(0.866)	(0.362)	(0.453)
dem. punish		0.828*	0.422	0.261	−0.259
		(0.309)	(0.646)	(0.308)	(0.438)
Constant	25.007***	25.630***	25.376***	25.823***	24.751***
	(0.834)	(0.929)	(1.495)	(0.734)	(1.246)
Observations	45	45	29	53	22
R^2	0.095	0.165	0.099	0.031	0.191

Note: The dependent variables are effort provision under no intervention (column 1), Nudge (column 2), Monetary Incentive (column 3), Punishment (column 4). Effort provision is measured by correctly answered tasks in the PEET. The independent variables are provided by the negative WTA (measured in Euros) to implement an intervention (nudge, mon. inc., punishment) instead of no intervention in the PEET. *p<0.1; **p<0.05; ***p<0.01

Table A12: Full OLS-Regression table on the effect of delaying the PEET by a week on demand for interventions

	Dependent variable:		
	Demand for interventions		
	(1)	(2)	(3)
Delay	0.221	0.401^{+}	-5.633^{***}
	(0.217)	(0.222)	(1.478)
Delay x $\hat{\delta}_{prosocial}$		0.063^{***}	
		(0.017)	
Delay x Work Incon Aware		-0.009^{*}	
		(0.004)	
Delay x Mon. Discounting		-0.209	
		(0.187)	
Delay x γ			5.986^{***}
			(1.499)
Group2	0.539	0.459	0.470
	(0.436)	(0.429)	(0.428)
Group4	-0.304	-0.328	-0.278
	(0.467)	(0.460)	(0.458)
Group2 x Cond.Contr.	-0.142	-0.071	-0.041
	(0.425)	(0.418)	(0.417)
Group4 x Cond.Contr.	0.459	0.511	0.477
	(0.460)	(0.452)	(0.451)
Group2 x Delay	-0.452	-0.469	-0.491
	(0.397)	(0.390)	(0.389)
Group4 x Delay	-0.041	-0.102	-0.143
	(0.369)	(0.365)	(0.363)
PG mean	0.005	0.013	0.011
	(0.024)	(0.023)	(0.023)
Donation	0.005	0.007	0.007
	(0.021)	(0.020)	(0.020)
Difficult	0.050	0.041	0.020
	(0.123)	(0.122)	(0.121)
Altruism1	0.048	0.053	0.049
	(0.037)	(0.036)	(0.036)
Altruism2	0.001^{*}	0.001^{*}	0.001^{*}
	(0.001)	(0.001)	(0.001)
Environ. Pref.	-0.056	-0.047	-0.056
	(0.199)	(0.196)	(0.195)
Trust	0.065	0.076	0.083
	(0.112)	(0.111)	(0.110)

Warm Glow	-0.073	-0.088	-0.078
	(0.092)	(0.090)	(0.089)
Paternalism	0.011	0.008	0.008
	(0.010)	(0.010)	(0.010)
Approval Paternalism	0.079	0.045	0.045
	(0.154)	(0.152)	(0.152)
Social organisation	-0.018	-0.074	-0.067
	(0.169)	(0.166)	(0.166)
Risk pref.	-0.003	-0.007	-0.008
	(0.012)	(0.012)	(0.012)
Patience	0.009	0.011	0.010
	(0.008)	(0.008)	(0.007)
Self control	0.269^{+}	0.205	0.226
	(0.160)	(0.159)	(0.158)
Loss aversion	-0.029	-0.020	-0.029
	(0.099)	(0.097)	(0.097)
Female	-0.031	-0.115	-0.126
	(0.177)	(0.176)	(0.175)
Age	-0.008	-0.013	-0.014
	(0.014)	(0.014)	(0.014)
Language	-0.101	-0.082	-0.091
	(0.248)	(0.244)	(0.242)
Vote green	-0.112	-0.124	-0.095
	(0.216)	(0.213)	(0.211)
Vote left	0.076	0.111	0.069
	(0.210)	(0.207)	(0.205)
Income	-0.0002^{+}	-0.0001	-0.0002
	(0.0001)	(0.0001)	(0.0001)
Smoke	-0.077	-0.090	-0.075
	(0.124)	(0.123)	(0.122)
Alc consumption	-0.022	-0.049	-0.053
	(0.056)	(0.055)	(0.055)
BMI	0.202	0.184	0.200
	(0.202)	(0.198)	(0.198)
δ_{effort}	0.002	0.001	0.001
	(0.001)	(0.001)	(0.001)
$\hat{\delta}_{effort}$	-0.001	0.003	
	(0.003)	(0.003)	
$\delta_{prosocial}$	-0.005	-0.009^{+}	-0.009^{*}
	(0.005)	(0.005)	(0.005)
$\hat{\delta}_{prosocial}$	-0.011	-0.043^{***}	
	(0.009)	(0.012)	

γ			-3.492^{***}
			(1.044)
Motivation	-0.001	-0.004	-0.004
	(0.003)	(0.003)	(0.003)
Moti development	-0.005	-0.002	-0.003
	(0.013)	(0.013)	(0.013)
Mon. Discounting	-0.055	0.019	-0.076
	(0.094)	(0.120)	(0.092)
Perform. belief	0.008^{*}	0.007^{+}	0.007^{+}
	(0.004)	(0.004)	(0.004)
Cond. Contr.	0.171	0.048	0.053
	(0.304)	(0.300)	(0.299)
Uncond. Contr	-0.097	-0.197	-0.220
	(0.550)	(0.542)	(0.540)
Constant	-2.576^{*}	-1.775	1.868
	(1.272)	(1.266)	(1.749)
Observations	401	401	401
R^2	0.112	0.152	0.146

Note: Information on the control variables can be retrieved from Table A1 in Appendix A. The dependent variable reports the negative WTA (measured in Euros) to implement an intervention instead of no intervention in the PEET. Robust standard errors in parentheses. $^{+}$p<0.1; *p<0.05; **p<0.01; ***p<0.001

Table A13: Full OLS-Regression table on the effect of delaying the PEET by a week on demand for 'Nudge', 'Monetary Incentive' and 'Punishment'

	Dependent variable:					
	Demand for Nudges	Demand for Mon. Inc.	Demand for Punishment	Demand for Nudges	Demand for Mon. Inc.	Demand for Punishment
	(1)	(2)	(3)	(4)	(5)	(6)
Time	0.514^{+}	-0.275	0.425	0.736^{**}	-0.140	0.607^{+}
	(0.263)	(0.331)	(0.320)	(0.271)	(0.341)	(0.326)
Time x $\hat{\delta}_{prosocial}$				0.038^{+}	0.049^{+}	0.100^{***}
				(0.021)	(0.026)	(0.025)
Time x Work Incon Aware				-0.010^{+}	-0.019^{**}	0.003
				(0.005)	(0.007)	(0.007)
Time x Mon. Discounting				-0.440^{+}	0.114	-0.300
				(0.228)	(0.287)	(0.275)
Group2	1.123^{*}	-0.717	1.211^{+}	1.043^{*}	-0.795	1.128^{+}
	(0.529)	(0.665)	(0.644)	(0.524)	(0.659)	(0.632)
Group4	0.651	-0.979	-0.583	0.619	-0.916	-0.688
	(0.566)	(0.712)	(0.689)	(0.562)	(0.706)	(0.677)
Group2 x Cond.Contr.	-0.807	1.094^{+}	-0.711	-0.717	1.213^{+}	-0.709
	(0.515)	(0.647)	(0.627)	(0.511)	(0.642)	(0.615)
Group4 x Cond.Contr.	0.066	1.190^{+}	0.122	0.129	1.180^{+}	0.224
	(0.557)	(0.700)	(0.678)	(0.552)	(0.694)	(0.665)
Group2 x Time	-0.528	0.013	-0.841	-0.531	-0.005	-0.870
	(0.481)	(0.605)	(0.586)	(0.477)	(0.599)	(0.574)
Group4 x Time	-0.535	0.007	0.406	-0.583	-0.181	0.458
	(0.447)	(0.562)	(0.545)	(0.447)	(0.561)	(0.538)
PG mean	-0.012	0.023	0.004	-0.006	0.029	0.017
	(0.029)	(0.036)	(0.035)	(0.028)	(0.036)	(0.034)
Donation	0.033	0.0003	-0.017	0.029	0.0002	-0.008
	(0.025)	(0.031)	(0.030)	(0.025)	(0.031)	(0.030)
Difficult	0.176	-0.002	-0.022	0.166	-0.062	0.018
	(0.149)	(0.187)	(0.181)	(0.149)	(0.187)	(0.179)
Altruism1	0.047	-0.073	0.170^{**}	0.049	-0.075	0.186^{***}
	(0.045)	(0.056)	(0.055)	(0.045)	(0.056)	(0.054)
Altruism2	0.001^{+}	0.0002	0.002^{**}	0.001	-0.0001	-0.003^{**}
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Environ. Pref.	-0.034	-0.010	-0.125	-0.051	-0.028	-0.062
	(0.241)	(0.303)	(0.294)	(0.240)	(0.301)	(0.289)
Trust	0.061	0.004	0.129	0.087	0.034	0.107
	(0.136)	(0.171)	(0.166)	(0.135)	(0.170)	(0.163)
Warm Glow	-0.077	0.014	-0.155	-0.080	0.017	-0.201
	(0.111)	(0.139)	(0.135)	(0.110)	(0.139)	(0.133)

Paternalism	0.012	−0.005	0.027^{+}	0.009	−0.009	0.023
	(0.013)	(0.016)	(0.015)	(0.013)	(0.016)	(0.015)
Approval Paternalism	0.117	0.153	−0.034	0.107	0.108	−0.081
	(0.187)	(0.235)	(0.228)	(0.186)	(0.234)	(0.224)
Social organisation	−0.098	0.028	0.018	−0.145	−0.007	−0.069
	(0.205)	(0.257)	(0.249)	(0.203)	(0.256)	(0.245)
Risk pref.	−0.011	0.002	−0.001	−0.013	−0.0004	−0.008
	(0.015)	(0.018)	(0.018)	(0.015)	(0.018)	(0.018)
Patience	−0.003	0.009	0.021^{+}	−0.001	0.011	0.024*
	(0.009)	(0.012)	(0.011)	(0.009)	(0.012)	(0.011)
Self control	0.155	0.037	0.614**	0.091	0.006	0.518*
	(0.194)	(0.244)	(0.237)	(0.194)	(0.244)	(0.234)
Loss aversion	0.074	−0.096	−0.064	0.078	−0.109	−0.029
	(0.119)	(0.150)	(0.145)	(0.119)	(0.149)	(0.143)
Female	0.232	−0.016	−0.310	0.189	−0.113	−0.422
	(0.215)	(0.270)	(0.261)	(0.215)	(0.270)	(0.259)
Age	−0.013	−0.030	0.019	−0.018	−0.037^{+}	0.015
	(0.017)	(0.022)	(0.021)	(0.017)	(0.022)	(0.021)
Language	−0.265	0.013	−0.050	−0.267	0.064	−0.044
	(0.300)	(0.378)	(0.366)	(0.298)	(0.375)	(0.359)
Vote green	0.056	−0.127	−0.265	0.011	−0.104	−0.279
	(0.261)	(0.329)	(0.318)	(0.260)	(0.327)	(0.314)
Vote left	−0.103	0.420	−0.089	−0.065	0.400	−0.0003
	(0.254)	(0.320)	(0.310)	(0.253)	(0.318)	(0.305)
Income	−0.0002	0.0002	−0.001**	−0.0002	0.0002	−0.0005**
	(0.0001)	(0.0002)	(0.0002)	(0.0001)	(0.0002)	(0.0002)
Smoke	−0.309*	0.214	−0.136	−0.334*	0.232	−0.169
	(0.151)	(0.189)	(0.183)	(0.150)	(0.188)	(0.181)
Alc consumption	−0.035	−0.153^{+}	0.122	−0.054	−0.177*	0.084
	(0.068)	(0.085)	(0.082)	(0.068)	(0.085)	(0.081)
BMI	0.390	0.457	−0.241	0.370	0.476	−0.295
	(0.244)	(0.307)	(0.297)	(0.242)	(0.305)	(0.292)
δ_{effort}	0.003*	−0.0005	0.002	0.003^{+}	−0.0005	0.001
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
$\hat{\delta}_{effort}$	−0.007*	0.008*	−0.004	−0.002	0.018***	−0.006
	(0.003)	(0.004)	(0.004)	(0.004)	(0.005)	(0.005)
$\delta_{prosocial}$	0.004	−0.011	−0.008	0.001	−0.015*	−0.013^{+}
	(0.006)	(0.007)	(0.007)	(0.006)	(0.007)	(0.007)
$\hat{\delta}_{prosocial}$	0.005	−0.036**	−0.002	−0.013	−0.060**	−0.055**
	(0.010)	(0.013)	(0.013)	(0.015)	(0.019)	(0.018)
Motivation	−0.005	−0.0002	0.001	−0.007	−0.003	−0.001
	(0.004)	(0.005)	(0.005)	(0.004)	(0.005)	(0.005)

Moti development	−0.014	0.007	−0.007	−0.012	0.007	−0.002
	(0.016)	(0.020)	(0.019)	(0.016)	(0.020)	(0.019)
Time pref.	0.006	−0.198	0.026	0.170	−0.273	0.159
	(0.114)	(0.144)	(0.139)	(0.147)	(0.185)	(0.177)
Perform. belief	0.003	0.015*	0.006	0.003	0.013*	0.005
	(0.005)	(0.006)	(0.006)	(0.005)	(0.006)	(0.005)
Cond. Contr.	0.326	−0.704	0.889*	0.220	−0.795+	0.719
	(0.368)	(0.463)	(0.448)	(0.366)	(0.460)	(0.441)
Uncond. Contr	−0.171	−1.140	1.019	−0.186	−1.315	0.909
	(0.667)	(0.838)	(0.812)	(0.663)	(0.834)	(0.799)
	−1.828	−1.159	−4.741*	−1.120	−0.195	−4.011*
	(1.542)	(1.939)	(1.877)	(1.548)	(1.946)	(1.865)
Observations	401	401	401	401	401	401
R^2	0.127	0.115	0.190	0.151	0.139	0.229

Note: Information on the control variables can be retrieved from Table A1 in Appendix A. The dependent variable reports the negative WTA (measured in Euros) to implement an intervention instead of no intervention in the PEET. Robust standard errors in parentheses. $^{+}$p<0.1; *p<0.05; **p<0.01; ***p<0.001.

Table A14: Demand for 'Monetary Incentives' in delayed tasks and loss aversion

	Dependent variable:
	Demand for Mon. Inc.
Time	0.010
	(0.560)
Time x $\hat{\delta}_{prosocial}$	0.019
	(0.074)
Time x Work Incon Aware	-0.035^{**}
	(0.012)
Time x Mon. Discounting	0.839^{+}
	(0.478)
Loss aversion	0.200
	(0.221)
δ_{effort}	0.001
	(0.004)
$\hat{\delta}_{effort}$	0.027^{**}
	(0.010)
$\delta_{prosocial}$	0.0004
	(0.013)
$\hat{\delta}_{prosocial}$	-0.030
	(0.047)
	2.379
	(3.148)
Above median loss-aversion	X
Observations	163
R^2	0.271

Note: Standard errors are robust and clustered on an individual level. Information on the control variables can be retrieved from Table A1 in Appendix A. The dependent variable reports the negative WTA (measured in Euros) to implement an intervention instead of no intervention in the PEET. $^{+}$p<0.1; *p<0.05; **p<0.01; ***p<0.001

Table A15: Full OLS-Regression table on the effect of increasing the regulatee size on demand for interventions

	Dependent variable:		
	Demand for Commitm.		
	(1)	(2)	(3)
Delay	0.224	0.228	0.311
	(0.223)	(0.224)	(0.341)
Group2	0.419^{+}	0.517	-0.378
	(0.236)	(0.401)	(0.620)
Group4	0.077	-0.313	-1.262^{+}
	(0.225)	(0.393)	(0.673)
Group2 x Cond.Contr.		-0.128	1.184^{*}
		(0.432)	(0.592)
Group4 x Cond.Contr.		0.457	1.382^{*}
		(0.392)	(0.670)
Group2 x Time	-0.380	-0.445	-1.199^{*}
	(0.387)	(0.409)	(0.571)
Group4 x Time	-0.088	-0.051	0.115
	(0.321)	(0.320)	(0.445)
Donation	0.003	0.005	-0.001
	(0.023)	(0.023)	(0.028)
Difficult	0.056	0.051	0.272^{+}
	(0.118)	(0.118)	(0.141)
Altruism1	0.048	0.048	-0.014
	(0.033)	(0.033)	(0.053)
Altruism2	0.001^{*}	0.001^{*}	0.001
	(0.0005)	(0.0005)	(0.001)
Environ. Pref.	-0.049	-0.053	-0.055
	(0.180)	(0.178)	(0.290)
Trust	0.068	0.070	-0.048
	(0.111)	(0.110)	(0.149)
Warm Glow	-0.079	-0.075	-0.224^{+}
	(0.086)	(0.086)	(0.134)
Paternalism	0.012	0.011	0.019
	(0.009)	(0.009)	(0.102)
Approval Paternalism	0.099	0.086	0.328
	(0.152)	(0.153)	(0.235)
$Social_{o}rganisation$	-0.010	-0.008	0.186
	(0.160)	(0.160)	(0.225)
Risk pref.	-0.003	-0.003	0.002
	(0.012)	(0.012)	(0.018)

Patience	0.010	0.009	0.020^{*}
	(0.007)	(0.007)	(0.010)
Self control	0.278^{+}	0.269^{+}	0.404^{+}
	(0.152)	(0.152)	(0.241)
Loss aversion	0.034	0.027	0.043
	(0.078)	(0.079)	(0.269)
Female	−0.036	−0.030	0.223
	(0.176)	(0.176)	(0.304)
Age	−0.006	−0.007	−0.008
	(0.013)	(0.013)	(0.022)
Language	−0.094	−0.102	0.170
	(0.246)	(0.246)	(0.394)
Vote green	−0.116	−0.109	-0.824^{**}
	(0.219)	(0.218)	(0.315)
Vote left	0.062	0.069	0.966^{**}
	(0.212)	(0.212)	(0.329)
Income	-0.0002^{*}	-0.0002^{+}	−0.0002
	(0.0001)	(0.0001)	(0.0002)
Smoke	−0.067	−0.075	0.226
	(0.169)	(0.169)	(0.254)
Alc consumption	−0.019	−0.022	−0.029
	(0.056)	(0.056)	(0.080)
BMI	0.225	0.219	0.872^{*}
	(0.199)	(0.199)	(0.380)
δ_{effort}	0.001	0.001	0.002
	(0.002)	(0.002)	(0.002)
$\hat{\delta}_{effort}$	−0.001	−0.001	0.0001
	(0.003)	(0.003)	(0.004)
$\delta_{prosocial}$	−0.006	−0.005	0.002
	(0.004)	(0.004)	(0.005)
$\hat{\delta}_{prosocial}$	−0.011	−0.011	-0.044^{***}
	(0.013)	(0.013)	(0.009)
Motivation	−0.001	−0.001	−0.003
	(0.004)	(0.004)	(0.007)
Moti development	−0.004	−0.005	−0.019
	(0.013)	(0.013)	(0.020)
Time pref.	−0.053	−0.053	-0.253^{+}
	(0.082)	(0.082)	(0.136)
Perform. belief	0.008^{+}	0.008^{+}	0.019^{**}
	(0.004)	(0.004)	(0.007)
Cond. Contr.	0.280	0.202	−0.591
	(0.198)	(0.278)	(0.458)

Uncond. Contr	0.006	−0.019	−0.214
	(0.426)	(0.423)	(0.694)
Constant	−3.955**	−3.806**	−6.684**
	(1.320)	(1.326)	(2.437)
Above median patern.			X
Observations	802	802	802
R^2	0.108	0.112	0.331

Note: Standard errors are robust and clustered on an individual level. Information on the control variables can be retrieved from Table A1 in Appendix A. The dependent variable reports the negative WTA (measured in Euros) to implement an intervention instead of no intervention in the PEET. $^{+}p<0.1$; $^{*}p<0.05$; $^{**}p<0.01$; $^{***}p<0.001$

Table A16: Full OLS-Regression table on the effect of increasing the regulatee size on demand for 'Nudge', 'Monetary Incentive', 'Punishment'

	Dependent variable:								
	Demand for Nudges			Demand for Mon. Inc.			Demand for Punishment		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Time	0.487^{+}	0.512^{+}	0.664^{+}	-0.240	-0.272	-0.587	0.404	0.426	0.844^{+}
	(0.272)	(0.274)	(0.378)	(0.334)	(0.335)	(0.533)	(0.322)	(0.322)	(0.480)
Group2	0.477	1.131^{*}	-0.132	0.173	-0.732	-2.500^{*}	0.641^{+}	1.209^{+}	1.549
	(0.327)	(0.484)	(0.867)	(0.352)	(0.587)	(1.008)	(0.373)	(0.689)	(1.094)
Group4	0.710^{**}	0.653	-0.850	0.032	-0.982	-2.221^{*}	-0.475	-0.584	-0.642
	(0.270)	(0.518)	(0.821)	(0.329)	(0.657)	(0.957)	(0.343)	(0.616)	(1.026)
Group2 x Cond.Contr.		-0.815^{+}	1.255		1.109^{+}	3.878^{***}		-0.709	-1.608
		(0.495)	(0.821)		(0.629)	(0.939)		(0.691)	(1.043)
Group4 x Cond.Contr.		0.062	1.898^{*}		1.198^{+}	2.464^{**}		0.123	-0.087
		(0.514)	(0.833)		(0.667)	(0.910)		(0.602)	(1.013)
Group2 x Time	-0.324	-0.527	-0.780	-0.168	0.012	-0.465	-0.659	-0.841	-2.206^{*}
	(0.470)	(0.488)	(0.773)	(0.584)	(0.585)	(0.908)	(0.589)	(0.640)	(0.975)
Group4 x Time	-0.535	-0.527	-0.620	-0.097	-0.008	1.086	0.392	0.404	-0.192
	(0.380)	(0.377)	(0.595)	(0.529)	(0.529)	(0.763)	(0.471)	(0.471)	(0.685)
Donation	0.033	0.033	0.002	-0.005	-0.001	-0.037	-0.018	-0.017	0.035
	(0.024)	(0.024)	(0.026)	(0.037)	(0.038)	(0.050)	(0.029)	(0.029)	(0.037)
Difficult	0.170	0.175	0.465^{**}	0.024	-0.001	0.059	-0.026	-0.022	0.250
	(0.141)	(0.142)	(0.158)	(0.167)	(0.166)	(0.230)	(0.181)	(0.183)	(0.247)
Altruism1	0.044	0.044	-0.043	-0.069	-0.069	-0.126	0.171^{***}	0.171^{***}	0.129
	(0.046)	(0.046)	(0.065)	(0.052)	(0.052)	(0.091)	(0.051)	(0.051)	(0.080)
Altruism2	0.001^{+}	0.001^{+}	0.001	0.00005	-0.0002	0.001	-0.002^{**}	-0.002^{**}	-0.004^{**}
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Environ. Pref.	-0.057	-0.035	-0.421	0.041	-0.009	0.003	-0.142	-0.124	0.216
	(0.243)	(0.238)	(0.402)	(0.285)	(0.282)	(0.442)	(0.252)	(0.252)	(0.399)
Trust	0.059	0.057	0.074	0.003	0.012	-0.225	0.131	0.130	-0.015
	(0.143)	(0.142)	(0.190)	(0.172)	(0.171)	(0.244)	(0.149)	(0.149)	(0.213)
Warm Glow	-0.073	-0.078	0.062	-0.003	0.016	-0.228	-0.151	-0.155	-0.491^{*}
	(0.108)	(0.109)	(0.181)	(0.128)	(0.130)	(0.185)	(0.129)	(0.128)	(0.214)
Paternalism	0.012	0.012	-0.073	-0.004	-0.005	-0.029	0.027^{+}	0.027^{+}	0.190
	(0.012)	(0.012)	(0.121)	(0.015)	(0.015)	(0.155)	(0.014)	(0.014)	(0.161)
Approval Paternalism	0.128	0.113	0.502^{+}	0.172	0.160	0.037	-0.019	-0.033	0.442
	(0.205)	(0.204)	(0.304)	(0.234)	(0.234)	(0.348)	(0.208)	(0.207)	(0.295)
Social organisation	-0.099	-0.097	-0.076	0.021	0.026	0.463	0.016	0.017	0.041
	(0.186)	(0.186)	(0.271)	(0.249)	(0.249)	(0.381)	(0.247)	(0.246)	(0.327)
Risk pref.	-0.013	-0.012	-0.010	0.006	0.003	0.002	-0.002	-0.001	0.016
	(0.014)	(0.014)	(0.023)	(0.019)	(0.019)	(0.032)	(0.019)	(0.019)	(0.029)

Patience	−0.003	−0.003	0.008	0.010	0.009	0.011	0.021^{+}	0.021^{+}	0.039*
	(0.010)	(0.009)	(0.014)	(0.012)	(0.012)	(0.016)	(0.011)	(0.011)	(0.016)
Self control	0.170	0.152	0.338	0.037	0.043	0.178	0.631**	0.615**	0.737*
	(0.196)	(0.198)	(0.317)	(0.236)	(0.235)	(0.396)	(0.206)	(0.204)	(0.326)
Loss aversion	0.060	0.073	−0.031	−0.091	−0.095	0.061	−0.076	−0.064	−0.218
	(0.099)	(0.099)	(0.312)	(0.120)	(0.117)	(0.401)	(0.119)	(0.118)	(0.394)
Female	0.212	0.226	0.472	0.002	−0.005	0.435	−0.321	−0.309	−0.137
	(0.209)	(0.209)	(0.347)	(0.268)	(0.264)	(0.437)	(0.260)	(0.261)	(0.460)
Age	−0.014	−0.013	−0.003	−0.025	−0.029	0.0004	0.019	0.020	−0.036
	(0.020)	(0.020)	(0.028)	(0.020)	(0.021)	(0.038)	(0.022)	(0.022)	(0.031)
Language	−0.276	−0.265	−0.392	0.057	0.013	0.882^{+}	−0.059	−0.050	0.078
	(0.310)	(0.304)	(0.601)	(0.349)	(0.358)	(0.520)	(0.326)	(0.323)	(0.576)
Vote green	0.049	0.052	−0.608	−0.133	−0.120	−0.853^{+}	−0.268	−0.264	−1.036*
	(0.251)	(0.250)	(0.406)	(0.328)	(0.326)	(0.469)	(0.313)	(0.314)	(0.488)
Vote left	−0.106	−0.110	0.329	0.408	0.434	1.404**	−0.084	−0.087	1.292*
	(0.240)	(0.239)	(0.375)	(0.319)	(0.317)	(0.452)	(0.318)	(0.319)	(0.505)
Income	−0.0002	−0.0002	−0.0001	0.0001	0.0002	−0.0001	−0.001**	−0.001**	−0.0002
	(0.0001)	(0.0001)	(0.0002)	(0.0002)	(0.0002)	(0.0004)	(0.0002)	(0.0002)	(0.0003)
Smoke	−0.303	−0.313	0.093	0.223	0.221	0.512^{+}	−0.125	−0.135	0.111
	(0.209)	(0.209)	(0.288)	(0.211)	(0.208)	(0.309)	(0.204)	(0.205)	(0.330)
Alc consumption	−0.035	−0.035	0.022	−0.144^{+}	−0.153^{+}	−0.156	0.123	0.122	0.040
	(0.064)	(0.063)	(0.090)	(0.083)	(0.083)	(0.121)	(0.081)	(0.081)	(0.125)
BMI	0.425^{+}	0.388^{+}	0.746^{+}	0.404	0.461	1.216*	−0.209	−0.240	0.467
	(0.231)	(0.233)	(0.426)	(0.303)	(0.300)	(0.507)	(0.278)	(0.277)	(0.472)
δ_{effort}	0.003^{+}	0.003^{+}	0.004	−0.001	−0.0005	0.001	0.002	0.002	0.001
	(0.002)	(0.002)	(0.003)	(0.002)	(0.002)	(0.003)	(0.002)	(0.002)	(0.003)
$\hat{\delta}_{effort}$	−0.007^{+}	−0.007^{+}	−0.001	0.008*	0.008^{+}	0.013*	−0.004	−0.004	−0.011*
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.005)	(0.003)	(0.003)	(0.005)
$\delta_{prosocial}$	0.003	0.004	0.002	−0.012	−0.011	−0.009	−0.009	−0.008	0.014
	(0.004)	(0.004)	(0.006)	(0.008)	(0.008)	(0.009)	(0.007)	(0.008)	(0.009)
$\hat{\delta}_{prosocial}$	0.006	0.005	−0.010	−0.037**	−0.035**	−0.057***	−0.002	−0.002	−0.066***
	(0.009)	(0.009)	(0.015)	(0.011)	(0.012)	(0.013)	(0.024)	(0.024)	(0.017)
Motivation	−0.005	−0.005	−0.006	−0.001	−0.0001	−0.005	0.001	0.001	0.002
	(0.004)	(0.004)	(0.007)	(0.006)	(0.006)	(0.010)	(0.005)	(0.005)	(0.009)
Moti development	−0.012	−0.014	−0.023	0.008	0.008	−0.027	−0.005	−0.007	0.003
	(0.016)	(0.016)	(0.023)	(0.018)	(0.018)	(0.029)	(0.019)	(0.019)	(0.034)
Time pref.	0.010	0.009	−0.122	−0.207	−0.204	−0.794**	0.026	0.025	0.171
	(0.115)	(0.113)	(0.173)	(0.145)	(0.147)	(0.259)	(0.124)	(0.124)	(0.172)
Perform. belief	0.003	0.003	0.004	0.014*	0.015*	0.024*	0.006	0.006	0.029**
	(0.005)	(0.005)	(0.008)	(0.006)	(0.006)	(0.011)	(0.006)	(0.006)	(0.010)
Cond. Contr.	0.052	0.263	−0.791	0.018	−0.585	−2.203**	0.742*	0.908*	1.308^{+}
	(0.245)	(0.359)	(0.552)	(0.311)	(0.396)	(0.679)	(0.292)	(0.411)	(0.760)

Uncond. Contr	−0.380	−0.369	−0.916	−0.679	−0.769	−1.321	1.073^{+}	1.079^{+}	1.640^{+}
	(0.436)	(0.429)	(0.594)	(0.717)	(0.706)	(1.026)	(0.596)	(0.601)	(0.941)
	−1.621	−1.763	−2.558	−1.989	−1.280	−2.173	−4.665**	−4.760**	−13.048***
	(1.451)	(1.412)	(2.777)	(2.023)	(2.014)	(4.139)	(1.669)	(1.706)	(3.523)
Above median patern.			X			X			X
Observations	802	802	802	802	802	802	802	802	802
R^2	0.119	0.127	0.244	0.103	0.114	0.322	0.186	0.190	0.550

Note: Standard errors are robust and clustered on an individual level. Information on the control variables can be retrieved from Table A1 in Appendix A. The dependent variable reports the negative WTA (measured in Euros) to implement an intervention instead of no intervention in the PEET. The entire regression Table is displayed in Table A18 in the Appendix. $^{+}$p<0.1; *p<0.05; **p<0.01; ***p<0.001

Table A17: OLS-Regression table on the effect of regulatee size on demand for interventions for the subgroup of participants with paternalistic attitudes and an above threshold demand for 'Punishment'

	Dependent variable:	
	Demand for Punishment	
	(1)	(2)
Time	0.018	0.328
	(0.320)	(0.324)
Group2	−0.554	0.805
	(1.157)	(0.749)
Group4	−2.615*	−2.363*
	(1.213)	(1.042)
Group2 x Cond.Contr.	0.245	−0.802
	(1.304)	(0.736)
Group4 x Cond.Contr.	1.776	2.277*
	(1.179)	(0.970)
Cond. Contr.	0.285	−0.161
	(0.497)	(0.472)
Uncond. Contr	0.925	0.463
	(0.773)	(0.812)
	−3.917	−1.910
	(3.243)	(2.936)
Control Variables	X	X
Above median Paternalist	X	X
Demand for Punishment >	-1	-1.5
Observations	802	802
R^2	0.550	0.477

Note: Standard errors are robust and clustered on an individual level. Information on the control variables can be retrieved from Table A1 in Appendix A. The dependent variable reports the negative WTA (measured in Euros) to implement an intervention instead of no intervention in the PEET. $^{+}$p<0.1; *p<0.05; **p<0.01; ***p<0.001

Table A18: Full OLS-Regression table on the effect of increasing the regulatee size on demand for 'Nudge', 'Monetary Incentive', 'Punishment'

	Dependent variable:					
	Demand for Nudges			Demand for Mon. Inc.		
	(1)	(2)	(3)	(4)	(5)	(6)
Demand for Volun. Scheme	0.260^{+}	0.166	0.214	−0.358^{+}	−0.283	
	(0.151)	(0.128)	(0.323)	(0.213)	(0.219)	
Demand for Nudge	0.078*	0.066*	−0.044	−0.057	−0.043	
	(0.036)	(0.030)	(0.076)	(0.050)	(0.052)	
Demand for multirow2*Mon.Inc.	−0.016	−0.009	0.172*	−0.055	−0.092^{+}	
	(0.033)	(0.027)	(0.069)	(0.046)	(0.047)	
Demand for Punishment	0.033	0.051*	−0.070	−0.032	0.017	
	(0.029)	(0.025)	(0.062)	(0.041)	(0.042)	

Difficult	-0.022	-0.180^{*}	0.121	0.166	-0.085
	(0.100)	(0.085)	(0.214)	(0.141)	(0.145)
Altruism2	-0.0003	-0.0004	-0.001	0.001^{*}	-0.00001
	(0.0004)	(0.0004)	(0.001)	(0.001)	(0.001)
Environ. Pref.	-0.467^{**}	0.197	0.147	0.158	-0.035
	(0.156)	(0.132)	(0.333)	(0.220)	(0.226)
Trust	0.192^{+}	-0.048	-0.190	0.140	-0.094
	(0.106)	(0.089)	(0.226)	(0.149)	(0.153)
Warm Glow	-0.089	-0.045	-0.165	-0.038	0.337^{**}
	(0.072)	(0.060)	(0.153)	(0.101)	(0.104)
Paternalism	0.010	0.011	-0.006	-0.023^{+}	0.007
	(0.008)	(0.007)	(0.018)	(0.012)	(0.012)
Approval$_{P}aternalism$	0.191	-0.041	-0.332	0.012	0.170
	(0.141)	(0.118)	(0.300)	(0.198)	(0.203)
Social$_{o}rganisation$	-0.187	0.211^{+}	-0.056	0.196	-0.165
	(0.145)	(0.122)	(0.309)	(0.204)	(0.209)
Risk pref.	0.020^{+}	-0.003	0.004	-0.014	-0.007
	(0.010)	(0.009)	(0.022)	(0.014)	(0.015)
Patience	-0.008	-0.001	-0.0004	0.015^{+}	-0.005
	(0.006)	(0.005)	(0.013)	(0.008)	(0.009)
Self control	0.158	0.022	-0.168	-0.010	-0.001
	(0.137)	(0.116)	(0.293)	(0.193)	(0.198)
Loss aversion	-0.089	-0.128	-0.196	0.176	0.237
	(0.102)	(0.086)	(0.218)	(0.144)	(0.148)
Female	-0.012	-0.209^{+}	0.386	-0.392^{+}	0.226
	(0.149)	(0.125)	(0.317)	(0.210)	(0.215)
Age	0.030^{*}	0.001	-0.039	0.004	0.004
	(0.015)	(0.012)	(0.031)	(0.020)	(0.021)
Language	-0.023	0.036	0.285	-0.120	-0.178
	(0.224)	(0.189)	(0.478)	(0.316)	(0.324)
Vote green	-0.013	0.094	-0.092	0.390^{+}	-0.379
	(0.159)	(0.134)	(0.340)	(0.225)	(0.230)
Vote left	-0.052	0.018	-0.036	-0.030	0.101
	(0.157)	(0.133)	(0.336)	(0.222)	(0.227)

Income	−0.0001	0.00002	−0.0002	0.0001	0.0002^{+}	
	(0.0001)	(0.0001)	(0.0002)	(0.0001)	(0.0001)	
Smoke	0.039	0.121	−0.514*	0.231	0.123	
	(0.103)	(0.087)	(0.220)	(0.146)	(0.149)	
Alc consumption	−0.109*	−0.068	0.197^{+}	−0.006	−0.013	
	(0.051)	(0.043)	(0.108)	(0.071)	(0.073)	
BMI	−0.264	0.069	−0.135	−0.007	0.337	
	(0.168)	(0.141)	(0.357)	(0.236)	(0.242)	
Work incon.	0.00002	0.0005	−0.001	0.0005	0.0005	
	(0.001)	(0.001)	(0.003)	(0.002)	(0.002)	
Work incon. aware	−0.002	−0.0004	−0.001	0.0003	0.004	
	(0.002)	(0.002)	(0.005)	(0.003)	(0.004)	
Social incons.	−0.005	−0.001	0.034*	−0.012	−0.015^{+}	
	(0.006)	(0.005)	(0.013)	(0.009)	(0.009)	
Social incons. aware	0.007	−0.002	−0.003	−0.005	0.003	
	(0.006)	(0.005)	(0.012)	(0.008)	(0.008)	
Motivation	−0.002	0.002	0.007	−0.006	−0.001	
	(0.003)	(0.002)	(0.006)	(0.004)	(0.004)	
Moti development	−0.003	−0.010	0.015	−0.002	0.001	
	(0.011)	(0.009)	(0.024)	(0.016)	(0.016)	
Time pref.	0.043	−0.044	0.042	−0.016	−0.025	
	(0.075)	(0.063)	(0.159)	(0.105)	(0.108)	
Perform. belief	0.003	0.003	−0.001	−0.008	0.003	
	(0.003)	(0.003)	(0.007)	(0.005)	(0.005)	
Cond. Contr.	0.107	−0.270	0.440	−0.132	−0.145	
	(0.200)	(0.168)	(0.425)	(0.281)	(0.288)	
Uncond. Contr	−0.244	−0.375	−0.041	0.315	0.346	
	(0.342)	(0.288)	(0.730)	(0.482)	(0.494)	
Constant	0.764	0.293	4.427^{+}	−0.697	−0.787	
	(1.150)	(0.969)	(2.452)	(1.620)	(1.661)	
Observations	105	105	105	105	105	105
R^2	0.496	0.338	0.307	0.416	0.369	0.386

Note: *p<0.1; **p<0.05; ***p<0.01

Table A19: Correlation between demand for interventions in the treatments 'immediate x self' and preferences for environmental policies (all variables)

	Dependent variable:				
	Pref. for No regulation	Pref. for information campaigns	Pref. for subsidies	Pref. for taxes	Pref. for bans
Demand for Volun. Scheme	-0.260^{+}	-0.166	-0.214	0.358^{+}	0.283
	(0.151)	(0.128)	(0.323)	(0.213)	(0.219)
Demand for Nudge	0.078^{*}	0.066^{*}	-0.044	-0.057	-0.043
	(0.036)	(0.030)	(0.076)	(0.050)	(0.052)
Demand for Mon.Inc.	-0.016	-0.009	0.172^{*}	-0.055	-0.092^{+}
	(0.033)	(0.027)	(0.069)	(0.046)	(0.047)
Demand for Punishment	0.033	0.051^{*}	-0.070	-0.032	0.017
	(0.029)	(0.025)	(0.062)	(0.041)	(0.042)
	-0.022	-0.180^{*}	0.121	0.166	-0.085
	(0.100)	(0.085)	(0.214)	(0.141)	(0.145)
Mon. Discounting	-0.0003	-0.0004	-0.001	0.001^{*}	-0.00001
	(0.0004)	(0.0004)	(0.001)	(0.001)	(0.001)
Difficult	-0.467^{**}	0.197	0.147	0.158	-0.035
	(0.156)	(0.132)	(0.333)	(0.220)	(0.226)
Altruism2	0.192^{+}	-0.048	-0.190	0.140	-0.094
	(0.106)	(0.089)	(0.226)	(0.149)	(0.153)
Environ. Pref.	-0.089	-0.045	-0.165	-0.038	0.337^{**}
	(0.072)	(0.060)	(0.153)	(0.101)	(0.104)
Trust	0.010	0.011	-0.006	-0.023^{+}	0.007
	(0.008)	(0.007)	(0.018)	(0.012)	(0.012)
Warm Glow	0.191	-0.041	-0.332	0.012	0.170
	(0.141)	(0.118)	(0.300)	(0.198)	(0.203)
Paternalism	-0.187	0.211^{+}	-0.056	0.196	-0.165
	(0.145)	(0.122)	(0.309)	(0.204)	(0.209)
Approval$_{paternalism}$	0.020^{+}	-0.003	0.004	-0.014	-0.007
	(0.010)	(0.009)	(0.022)	(0.014)	(0.015)
Social$_{organisation}$	-0.008	-0.001	-0.0004	0.015^{+}	-0.005
	(0.006)	(0.005)	(0.013)	(0.008)	(0.009)
Risk pref.	0.158	0.022	-0.168	-0.010	-0.001
	(0.137)	(0.116)	(0.293)	(0.193)	(0.198)

Patience	−0.089	−0.128	−0.196	0.176	0.237
	(0.102)	(0.086)	(0.218)	(0.144)	(0.148)
Self control	−0.012	−0.209^{+}	0.386	−0.392^{+}	0.226
	(0.149)	(0.125)	(0.317)	(0.210)	(0.215)
Loss aversion	0.030*	0.001	−0.039	0.004	0.004
	(0.015)	(0.012)	(0.031)	(0.020)	(0.021)
Female	−0.023	0.036	0.285	−0.120	−0.178
	(0.224)	(0.189)	(0.478)	(0.316)	(0.324)
Age	−0.013	0.094	−0.092	0.390^{+}	−0.379
	(0.159)	(0.134)	(0.340)	(0.225)	(0.230)
Language	−0.052	0.018	−0.036	−0.030	0.101
	(0.157)	(0.133)	(0.336)	(0.222)	(0.227)
Vote green	−0.0001	0.00002	−0.0002	0.0001	0.0002^{+}
	(0.0001)	(0.0001)	(0.0002)	(0.0001)	(0.0001)
Vote left	0.039	0.121	−0.514*	0.231	0.123
	(0.103)	(0.087)	(0.220)	(0.146)	(0.149)
Income	−0.109*	−0.068	0.197^{+}	−0.006	−0.013
	(0.051)	(0.043)	(0.108)	(0.071)	(0.073)
Smoke	−0.264	0.069	−0.135	−0.007	0.337
	(0.168)	(0.141)	(0.357)	(0.236)	(0.242)
Alc consumption	0.00002	0.0005	−0.001	0.0005	0.0005
	(0.001)	(0.001)	(0.003)	(0.002)	(0.002)
BMI	−0.002	−0.0004	−0.001	0.0003	0.004
	(0.002)	(0.002)	(0.005)	(0.003)	(0.004)
Work incon.	−0.005	−0.001	0.034*	−0.012	−0.015^{+}
	(0.006)	(0.005)	(0.013)	(0.009)	(0.009)
Work incon. aware	0.007	−0.002	−0.003	−0.005	0.003
	(0.006)	(0.005)	(0.012)	(0.008)	(0.008)
Social incons.	−0.002	0.002	0.007	−0.006	−0.001
	(0.003)	(0.002)	(0.006)	(0.004)	(0.004)
Social incons. aware	−0.003	−0.010	0.015	−0.002	0.001
	(0.011)	(0.009)	(0.024)	(0.016)	(0.016)
Motivation	0.043	−0.044	0.042	−0.016	−0.025
	(0.075)	(0.063)	(0.159)	(0.105)	(0.108)

Moti development	0.003	0.003	−0.001	−0.008	0.003
	(0.003)	(0.003)	(0.007)	(0.005)	(0.005)
Time pref.	0.107	−0.270	0.440	−0.132	−0.145
	(0.200)	(0.168)	(0.425)	(0.281)	(0.288)
Perform. belief	−0.244	−0.375	−0.041	0.315	0.346
	(0.342)	(0.288)	(0.730)	(0.482)	(0.494)
Cond. Contr.	1.024	0.459	4.641^{+}	−1.055	−1.070
	(1.128)	(0.950)	(2.405)	(1.588)	(1.629)
Observations	105	105	105	105	105
R^2	0.496	0.338	0.307	0.416	0.369
Adjusted R^2	0.240	0.002	−0.045	0.120	0.049
Note:					*p<0.1; **p<0.05; ***p<0.01

Table A20: Correlation between demand for interventions in the treatments 'immediate x group' and preferences for environmental policies (all variables)

	Dependent variable:				
	Pref. for No regulation	Pref. for information campaigns	Pref. for subsidies	Pref. for taxes	Pref. for bans
Demand for Volun. Scheme	0.334***	−0.029	−0.233	0.092	−0.164
	(0.096)	(0.149)	(0.317)	(0.208)	(0.243)
Demand for Nudge	0.045	0.032	0.031	0.006	−0.114
	(0.033)	(0.050)	(0.108)	(0.071)	(0.082)
Demand for Mon.Inc.	0.061*	−0.060	−0.111	0.081	0.029
	(0.025)	(0.039)	(0.084)	(0.055)	(0.064)
Demand for Punishment	−0.006	−0.001	−0.012	−0.004	0.023
	(0.021)	(0.033)	(0.070)	(0.046)	(0.053)
Difficult	−0.045	0.008	0.332	−0.176	−0.120
	(0.073)	(0.113)	(0.242)	(0.159)	(0.185)
Altruism2	0.0003	0.0002	−0.00004	−0.0004	−0.0001
	(0.0003)	(0.0005)	(0.001)	(0.001)	(0.001)
Environ. Pref.	−0.287*	0.134	−0.268	0.133	0.288
	(0.114)	(0.176)	(0.376)	(0.247)	(0.288)
Trust	−0.025	−0.098	0.339^{+}	−0.163	−0.053
	(0.056)	(0.087)	(0.185)	(0.121)	(0.142)
Warm Glow	−0.155***	0.003	0.232	−0.020	−0.059

	(0.043)	(0.066)	(0.141)	(0.092)	(0.108)
Paternalism	-0.010^{*}	-0.002	-0.003	0.013	0.002
	(0.005)	(0.008)	(0.017)	(0.011)	(0.013)
Approval$_{paternalism}$	-0.271^{***}	-0.112	0.240	0.078	0.066
	(0.077)	(0.119)	(0.254)	(0.167)	(0.195)
Social$_{organisation}$	0.119	-0.015	-0.347	0.163	0.081
	(0.092)	(0.142)	(0.304)	(0.199)	(0.233)
Risk pref.	0.001	0.006	-0.005	0.014	-0.017
	(0.006)	(0.010)	(0.021)	(0.014)	(0.016)
Patience	0.0004	0.001	0.014	-0.002	-0.014
	(0.004)	(0.007)	(0.015)	(0.010)	(0.011)
Self control	-0.063	0.093	-0.282	-0.034	0.285
	(0.080)	(0.123)	(0.262)	(0.172)	(0.201)
Loss aversion	0.012	0.116^{*}	-0.037	-0.027	-0.063
	(0.035)	(0.054)	(0.116)	(0.076)	(0.089)
Female	-0.134	0.193	-0.477	0.177	0.241
	(0.092)	(0.141)	(0.302)	(0.198)	(0.232)
Age	-0.012	0.023^{+}	-0.029	0.012	0.006
	(0.008)	(0.012)	(0.026)	(0.017)	(0.020)
Language	-0.143	-0.046	0.565	-0.131	-0.246
	(0.104)	(0.160)	(0.341)	(0.224)	(0.262)
Vote green	0.131	-0.210	-0.049	0.165	-0.037
	(0.125)	(0.192)	(0.411)	(0.269)	(0.315)
Vote left	-0.117	-0.084	0.300	-0.060	-0.038
	(0.116)	(0.179)	(0.383)	(0.251)	(0.293)
Income	0.0001	-0.0001	0.0002	-0.00004	-0.0002
	(0.0001)	(0.0001)	(0.0002)	(0.0002)	(0.0002)
Smoke	-0.023	-0.017	0.346	-0.296	-0.009
	(0.083)	(0.128)	(0.272)	(0.179)	(0.209)
Alc consumption	-0.027	-0.065	-0.212^{+}	0.229^{**}	0.076
	(0.038)	(0.059)	(0.125)	(0.082)	(0.096)
BMI	0.068	-0.071	-0.119	0.065	0.057
	(0.121)	(0.187)	(0.400)	(0.262)	(0.307)
Work incon.	0.00000	0.001	0.004	-0.004^{+}	-0.001

	(0.001)	(0.002)	(0.004)	(0.002)	(0.003)
Work incon. aware	0.002	0.002	0.001	−0.002	−0.003
	(0.002)	(0.002)	(0.005)	(0.003)	(0.004)
Social incons.	0.002	−0.004	0.007	−0.003	−0.003
	(0.003)	(0.004)	(0.010)	(0.006)	(0.007)
Social incons. aware	0.014	0.012	−0.016	−0.009	−0.001
	(0.009)	(0.014)	(0.030)	(0.020)	(0.023)
Motivation	0.0001	−0.002	0.005	−0.001	−0.002
	(0.002)	(0.003)	(0.006)	(0.004)	(0.005)
Moti development	0.005	0.014	−0.001	−0.020	0.001
	(0.007)	(0.011)	(0.023)	(0.015)	(0.017)
Time pref.	−0.010	−0.001	0.094	−0.037	−0.046
	(0.046)	(0.071)	(0.151)	(0.099)	(0.116)
Perform. belief	0.004*	0.004	0.004	−0.006	−0.006
	(0.002)	(0.003)	(0.007)	(0.005)	(0.005)
Cond. Contr.	0.199+	0.235	−0.071	−0.093	−0.271
	(0.118)	(0.182)	(0.389)	(0.255)	(0.299)
Uncond. Contr	0.209	0.134	−0.639	−0.604	0.900
	(0.295)	(0.455)	(0.972)	(0.637)	(0.745)
Constant	2.783**	−0.289	0.222	0.809	0.474
	(0.835)	(1.288)	(2.751)	(1.804)	(2.110)
Observations	98	98	98	98	98
R^2	0.621	0.349	0.403	0.420	0.289
Adjusted R^2	0.407	−0.019	0.066	0.093	−0.112
Note:					*p<0.1; **p<0.05; ***p<0.01

Table A21: Correlation between demand for interventions in the treatments 'delay x immediate' and preferences for environmental policies (all variables)

	Dependent variable:				
	Pref. for No regulation	Pref. for information campaigns	Pref. for subsidies	Pref. for taxes	Pref. for bans
Demand for Volun. Scheme	0.0001	0.034	−0.265	−0.058	0.289
	(0.122)	(0.143)	(0.346)	(0.279)	(0.243)
Demand for Nudge	0.022	−0.016	−0.005	−0.063	0.062
	(0.030)	(0.035)	(0.084)	(0.068)	(0.059)

Demand for Mon.Inc.	0.004	0.024	0.008	0.035	−0.071
	(0.026)	(0.030)	(0.073)	(0.059)	(0.051)
Demand for Punishment	0.032	0.043	0.043	−0.151**	0.033
	(0.024)	(0.029)	(0.069)	(0.056)	(0.049)
Difficult	−0.054	0.058	−0.107	0.174	−0.072
	(0.082)	(0.097)	(0.234)	(0.189)	(0.164)
Altruism2	−0.00000	0.001	0.002+	−0.002**	−0.0001
	(0.0003)	(0.0004)	(0.001)	(0.001)	(0.001)
Environ. Pref.	−0.022	0.144	−0.117	−0.320	0.314
	(0.129)	(0.153)	(0.368)	(0.297)	(0.259)
Trust	−0.135+	0.111	−0.134	0.281+	−0.124
	(0.070)	(0.083)	(0.201)	(0.162)	(0.141)
Warm Glow	0.009	0.021	−0.217	0.056	0.130
	(0.059)	(0.070)	(0.169)	(0.136)	(0.119)
Paternalism	−0.007	0.002	0.022	0.014	−0.030*
	(0.007)	(0.008)	(0.020)	(0.016)	(0.014)
$\text{Approval}_{Paternalism}$	−0.191*	−0.249*	−0.247	0.699**	−0.013
	(0.091)	(0.107)	(0.259)	(0.208)	(0.182)
$\text{Social}_{organisation}$	−0.048	−0.088	0.337	−0.119	−0.081
	(0.101)	(0.119)	(0.288)	(0.232)	(0.202)
Risk pref.	−0.003	0.005	−0.003	0.016	−0.015
	(0.008)	(0.009)	(0.022)	(0.018)	(0.015)
Patience	−0.005	−0.001	−0.024	0.023+	0.007
	(0.006)	(0.007)	(0.016)	(0.013)	(0.011)
Self control	0.090	−0.039	0.239	0.042	−0.332+
	(0.097)	(0.114)	(0.276)	(0.223)	(0.194)
Loss aversion	0.031	0.001	−0.025	0.081	−0.088
	(0.082)	(0.097)	(0.233)	(0.188)	(0.164)
Female	−0.212	0.063	0.308	0.074	−0.233
	(0.129)	(0.152)	(0.368)	(0.297)	(0.258)
Age	0.002	0.007	0.010	−0.018	−0.001
	(0.006)	(0.007)	(0.018)	(0.014)	(0.013)
Language	0.024	0.039	0.110	−0.313	0.140
	(0.167)	(0.197)	(0.476)	(0.384)	(0.334)

Vote green	−0.029	−0.186	0.236	−0.509	0.487
	(0.149)	(0.176)	(0.425)	(0.342)	(0.298)
Vote left	0.106	0.115	−0.237	0.069	−0.054
	(0.140)	(0.165)	(0.397)	(0.320)	(0.279)
Income	0.00003	−0.0001	0.0001	−0.0001	0.00000
	(0.0001)	(0.0001)	(0.0002)	(0.0002)	(0.0001)
Smoke	−0.069	−0.007	0.292	−0.171	−0.045
	(0.074)	(0.088)	(0.212)	(0.171)	(0.149)
Alc consumption	−0.059^{+}	−0.102**	0.150^{+}	0.087	−0.076
	(0.031)	(0.037)	(0.089)	(0.072)	(0.062)
BMI	0.133	−0.167	0.151	0.007	−0.123
	(0.141)	(0.166)	(0.400)	(0.323)	(0.281)
Work incon.	−0.0005	0.001	−0.005*	0.004**	−0.0001
	(0.001)	(0.001)	(0.002)	(0.002)	(0.001)
Work incon. aware	0.002	−0.001	0.006	−0.005	−0.001
	(0.002)	(0.002)	(0.005)	(0.004)	(0.004)
Social incons.	0.007	0.003	−0.001	0.010	−0.019
	(0.007)	(0.008)	(0.019)	(0.016)	(0.014)
Social incons. aware	−0.0002	−0.016	0.030	−0.012	−0.002
	(0.008)	(0.010)	(0.023)	(0.019)	(0.016)
Motivation	−0.003	−0.007**	0.009	0.001	−0.0003
	(0.002)	(0.002)	(0.006)	(0.005)	(0.004)
Moti development	−0.015	−0.021^{+}	0.048^{+}	−0.010	−0.001
	(0.010)	(0.011)	(0.028)	(0.022)	(0.019)
Time pref.	0.108	−0.011	0.126	−0.096	−0.126
	(0.071)	(0.084)	(0.202)	(0.163)	(0.142)
Perform. belief	0.004	0.001	0.002	−0.003	−0.004
	(0.002)	(0.003)	(0.007)	(0.006)	(0.005)
Cond. Contr.	−0.079	0.172	0.084	−0.143	−0.034
	(0.122)	(0.144)	(0.348)	(0.280)	(0.244)
Uncond. Contr	−0.302	−0.354	0.745	−0.195	0.106
	(0.279)	(0.329)	(0.793)	(0.639)	(0.557)
Constant	1.339	0.345	0.296	0.070	1.951
	(0.819)	(0.965)	(2.330)	(1.878)	(1.635)

Observations	103	103	103	103	103
R^2	0.397	0.451	0.435	0.492	0.387
Adjusted R^2	0.083	0.164	0.140	0.226	0.066
Note:					*p<0.1; **p<0.05; ***p<0.01

Table A22: Correlation between demand for interventions in treatments 'delay x self' and 'immediate x group' and preferences for environmental policies (all variables)

	Dependent variable:									
	Pref. for No Regulation		Pref. for Nudges		Pref. for Mon. Inc.		Pref. for Punishment		Pref. for Bans	
Time dim.	delay	immediate	delay	immediate	delay	immediate	delay	immediate	delay	immediate
Reg. size dim.	self	group	self	group	self	group	self	group	self	group
Demand for Volun. Scheme	0.0001	0.334***	0.034	−0.029	−0.265	−0.233	−0.058	0.092	0.289	−0.164
	(0.122)	(0.096)	(0.143)	(0.149)	(0.346)	(0.317)	(0.279)	(0.208)	(0.243)	(0.243)
Demand for Nudge	0.022	0.045	−0.016	0.032	−0.005	0.031	−0.063	0.006	0.062	−0.114
	(0.030)	(0.033)	(0.035)	(0.050)	(0.084)	(0.108)	(0.068)	(0.071)	(0.059)	(0.082)
Demand for Mon.Inc.	0.004	0.061*	0.024	−0.060	0.008	−0.111	0.035	0.081	−0.071	0.029
	(0.026)	(0.025)	(0.030)	(0.039)	(0.073)	(0.084)	(0.059)	(0.055)	(0.051)	(0.064)
Demand for Punishment	0.032	−0.006	0.043	−0.001	0.043	−0.012	−0.151**	−0.004	0.033	0.023
	(0.024)	(0.021)	(0.029)	(0.033)	(0.069)	(0.070)	(0.056)	(0.046)	(0.049)	(0.053)
Difficult	−0.054	−0.045	0.058	0.008	−0.107	0.332	0.174	−0.176	−0.072	−0.120
	(0.082)	(0.073)	(0.097)	(0.113)	(0.234)	(0.242)	(0.189)	(0.159)	(0.164)	(0.185)
Altruism2	−0.00000	0.0003	0.001	0.0002	0.002^{+}	−0.00004	−0.002**	−0.0004	−0.0001	−0.0001
	(0.0003)	(0.0003)	(0.0004)	(0.0005)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Environ. Pref.	−0.022	−0.287*	0.144	0.134	−0.117	−0.268	−0.320	0.133	0.314	0.288
	(0.129)	(0.114)	(0.153)	(0.176)	(0.368)	(0.376)	(0.297)	(0.247)	(0.259)	(0.288)
Trust	−0.135^{+}	−0.025	0.111	−0.098	−0.134	0.339^{+}	0.281^{+}	−0.163	−0.124	−0.053
	(0.070)	(0.056)	(0.083)	(0.087)	(0.201)	(0.185)	(0.162)	(0.121)	(0.141)	(0.142)
Warm Glow	0.009	−0.155***	0.021	0.003	−0.217	0.232	0.056	−0.020	0.130	−0.059
	(0.059)	(0.043)	(0.070)	(0.066)	(0.169)	(0.141)	(0.136)	(0.092)	(0.119)	(0.108)
Paternalism	−0.007	−0.010*	0.002	−0.002	0.022	−0.003	0.014	0.013	−0.030*	0.002
	(0.007)	(0.005)	(0.008)	(0.008)	(0.020)	(0.017)	(0.016)	(0.011)	(0.014)	(0.013)
Approval Paternalism	−0.191*	−0.271***	−0.249*	−0.112	−0.247	0.240	0.699**	0.078	−0.013	0.066
	(0.091)	(0.077)	(0.107)	(0.119)	(0.259)	(0.254)	(0.208)	(0.167)	(0.182)	(0.195)
Social organisation	−0.048	0.119	−0.088	−0.015	0.337	−0.347	−0.119	0.163	−0.081	0.081
	(0.101)	(0.092)	(0.119)	(0.142)	(0.288)	(0.304)	(0.232)	(0.199)	(0.202)	(0.233)

Risk pref.	−0.003	0.001	0.005	0.006	−0.003	−0.005	0.016	0.014	−0.015	−0.017
	(0.008)	(0.006)	(0.009)	(0.010)	(0.022)	(0.021)	(0.018)	(0.014)	(0.015)	(0.016)
Patience	−0.005	0.0004	−0.001	0.001	−0.024	0.014	0.023^{+}	−0.002	0.007	−0.014
	(0.006)	(0.004)	(0.007)	(0.007)	(0.016)	(0.015)	(0.013)	(0.010)	(0.011)	(0.011)
Self control	0.090	−0.063	−0.039	0.093	0.239	−0.282	0.042	−0.034	−0.332^{+}	0.285
	(0.097)	(0.080)	(0.114)	(0.123)	(0.276)	(0.262)	(0.223)	(0.172)	(0.194)	(0.201)
Loss aversion	0.031	0.012	0.001	0.116*	−0.025	−0.037	0.081	−0.027	−0.088	−0.063
	(0.082)	(0.035)	(0.097)	(0.054)	(0.233)	(0.116)	(0.188)	(0.076)	(0.164)	(0.089)
Female	−0.212	−0.134	0.063	0.193	0.308	−0.477	0.074	0.177	−0.233	0.241
	(0.129)	(0.092)	(0.152)	(0.141)	(0.368)	(0.302)	(0.297)	(0.198)	(0.258)	(0.232)
Age	0.002	−0.012	0.007	0.023^{+}	0.010	−0.029	−0.018	0.012	−0.001	0.006
	(0.006)	(0.008)	(0.007)	(0.012)	(0.018)	(0.026)	(0.014)	(0.017)	(0.013)	(0.020)
Language	0.024	−0.143	0.039	−0.046	0.110	0.565	−0.313	−0.131	0.140	−0.246
	(0.167)	(0.104)	(0.197)	(0.160)	(0.476)	(0.341)	(0.384)	(0.224)	(0.334)	(0.262)
Vote green	−0.029	0.131	−0.186	−0.210	0.236	−0.049	−0.509	0.165	0.487	−0.037
	(0.149)	(0.125)	(0.176)	(0.192)	(0.425)	(0.411)	(0.342)	(0.269)	(0.298)	(0.315)
Vote left	0.106	−0.117	0.115	−0.084	−0.237	0.300	0.069	−0.060	−0.054	−0.038
	(0.140)	(0.116)	(0.165)	(0.179)	(0.397)	(0.383)	(0.320)	(0.251)	(0.279)	(0.293)
Income	0.00003	0.0001	−0.0001	−0.0001	0.0001	0.0002	−0.0001	−0.00004	0.00000	−0.0002
	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0001)	(0.0002)
Smoke	−0.069	−0.023	−0.007	−0.017	0.292	0.346	−0.171	−0.296	−0.045	−0.009
	(0.074)	(0.083)	(0.088)	(0.128)	(0.212)	(0.272)	(0.171)	(0.179)	(0.149)	(0.209)
Alc consumption	−0.059^{+}	−0.027	−0.102**	−0.065	0.150^{+}	−0.212^{+}	0.087	0.229**	−0.076	0.076
	(0.031)	(0.038)	(0.037)	(0.059)	(0.089)	(0.125)	(0.072)	(0.082)	(0.062)	(0.096)
BMI	0.133	0.068	−0.167	−0.071	0.151	−0.119	0.007	0.065	−0.123	0.057
	(0.141)	(0.121)	(0.166)	(0.187)	(0.400)	(0.400)	(0.323)	(0.262)	(0.281)	(0.307)
Work incon.	−0.0005	0.00000	0.001	0.001	−0.005*	0.004	0.004**	−0.004^{+}	−0.0001	−0.001
	(0.001)	(0.001)	(0.001)	(0.002)	(0.002)	(0.004)	(0.002)	(0.002)	(0.001)	(0.003)
Work incon. aware	0.002	0.002	−0.001	0.002	0.006	0.001	−0.005	−0.002	−0.001	−0.003
	(0.002)	(0.002)	(0.002)	(0.002)	(0.005)	(0.005)	(0.004)	(0.003)	(0.004)	(0.004)
Social incons.	0.007	0.002	0.003	−0.004	−0.001	0.007	0.010	−0.003	−0.019	−0.003
	(0.007)	(0.003)	(0.008)	(0.004)	(0.019)	(0.010)	(0.016)	(0.006)	(0.014)	(0.007)
Social incons. aware	−0.0002	0.014	−0.016	0.012	0.030	−0.016	−0.012	−0.009	−0.002	−0.001
	(0.008)	(0.009)	(0.010)	(0.014)	(0.023)	(0.030)	(0.019)	(0.020)	(0.016)	(0.023)

Motivation	−0.003	0.0001	−0.007**	−0.002	0.009	0.005	0.001	−0.001	−0.0003	−0.002
	(0.002)	(0.002)	(0.002)	(0.003)	(0.006)	(0.006)	(0.005)	(0.004)	(0.004)	(0.005)
Moti development	−0.015	0.005	−0.021+	0.014	0.048+	−0.001	−0.010	−0.020	−0.001	0.001
	(0.010)	(0.007)	(0.011)	(0.011)	(0.028)	(0.023)	(0.022)	(0.015)	(0.019)	(0.017)
Time pref.	0.108	−0.010	−0.011	−0.001	0.126	0.094	−0.096	−0.037	−0.126	−0.046
	(0.071)	(0.046)	(0.084)	(0.071)	(0.202)	(0.151)	(0.163)	(0.099)	(0.142)	(0.116)
Perform. belief	0.004	0.004*	0.001	0.004	0.002	0.004	−0.003	−0.006	−0.004	−0.006
	(0.002)	(0.002)	(0.003)	(0.003)	(0.007)	(0.007)	(0.006)	(0.005)	(0.005)	(0.005)
Cond. Contr.	−0.079	0.199+	0.172	0.235	0.084	−0.071	−0.143	−0.093	−0.034	−0.271
	(0.122)	(0.118)	(0.144)	(0.182)	(0.348)	(0.389)	(0.280)	(0.255)	(0.244)	(0.299)
Uncond. Contr	−0.302	0.209	−0.354	0.134	0.745	−0.639	−0.195	−0.604	0.106	0.900
	(0.279)	(0.295)	(0.329)	(0.455)	(0.793)	(0.972)	(0.639)	(0.637)	(0.557)	(0.745)
Constant	1.339	2.783**	0.345	−0.289	0.296	0.222	0.070	0.809	1.951	0.474
	(0.819)	(0.835)	(0.965)	(1.288)	(2.330)	(2.751)	(1.878)	(1.804)	(1.635)	(2.110)
Observations	103	98	103	98	103	98	103	98	103	98
R^2	0.397	0.621	0.451	0.349	0.435	0.403	0.492	0.420	0.387	0.289
Adjusted R^2	0.083	0.407	0.164	−0.019	0.140	0.066	0.226	0.093	0.066	−0.112

Note: *p<0.1; **p<0.05; ***p<0.01

Appendix B

B.1 Details on the experimental design

Figure B1: Variation in the experimental structure along the time treatment dimension

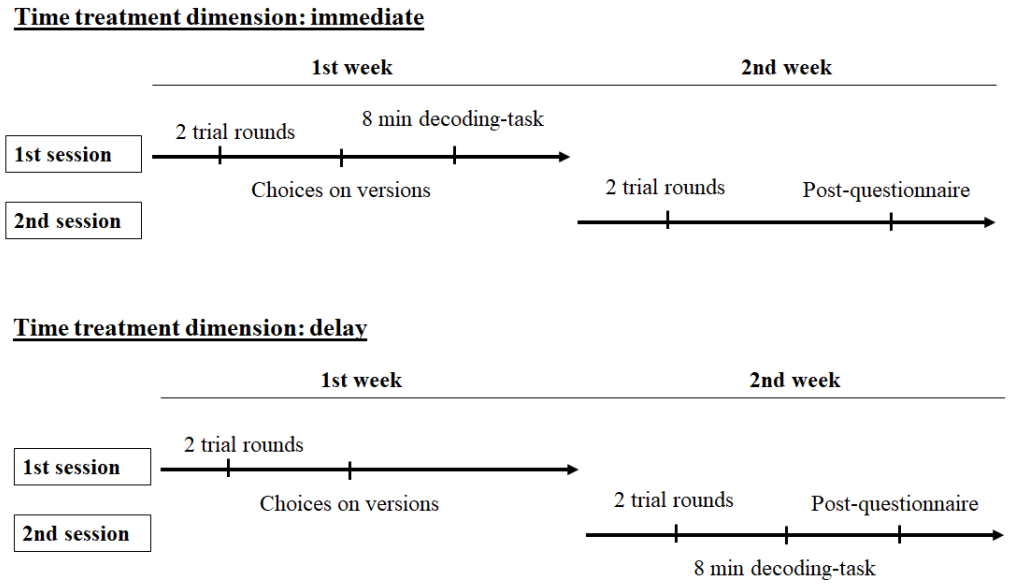


Figure B2: Price list (example)

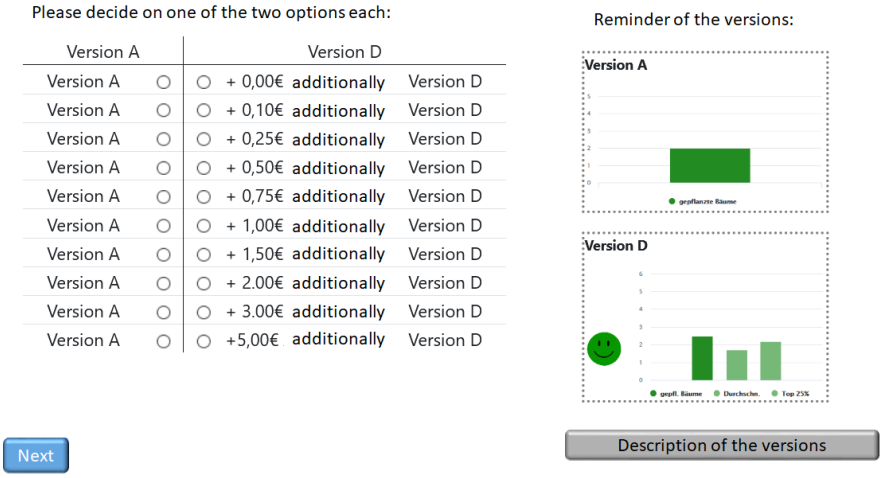


Figure B3: Example of feedback provided to participants in Nudge within the PEET

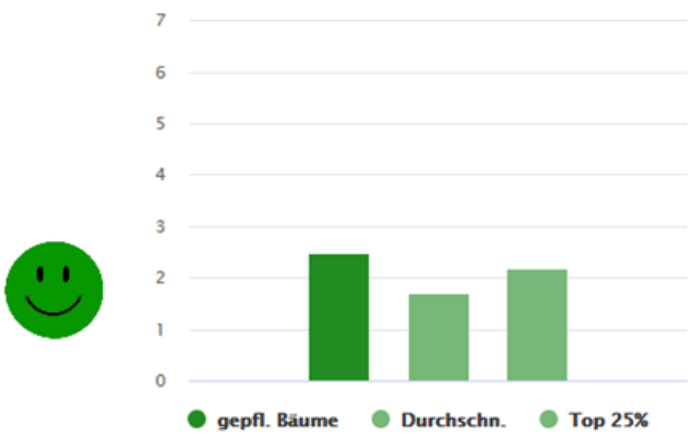


Figure B4: Example of graphical feedback provided to participants in Monetary Incentive within the PEET

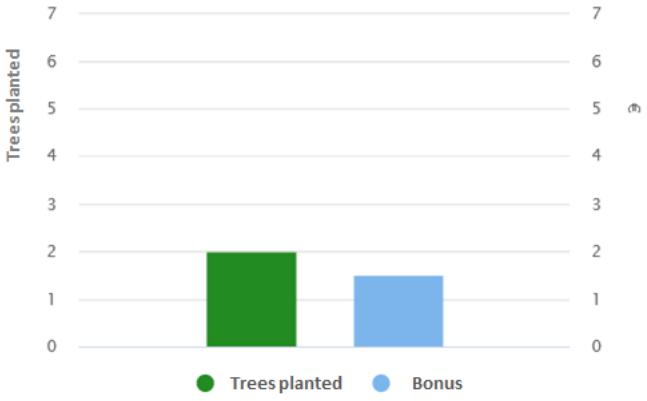
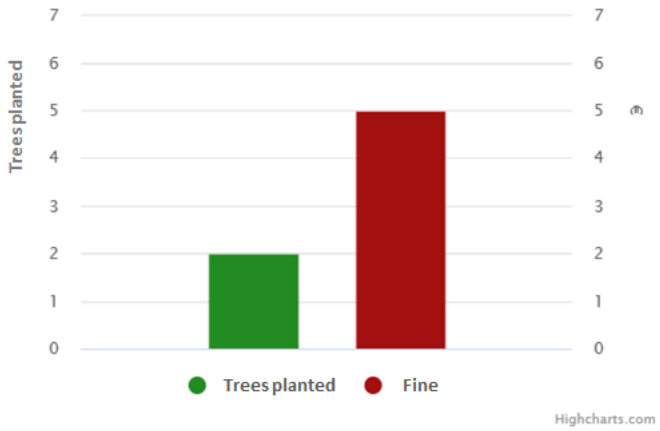
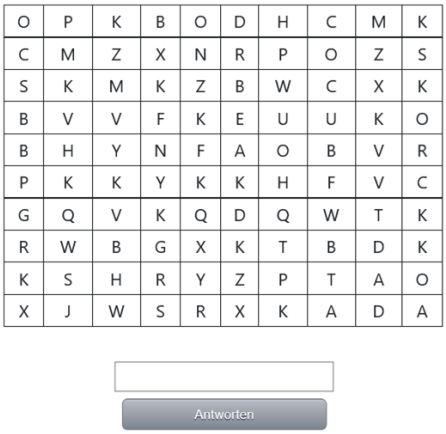


Figure B5: Example of graphical feedback provided to participants in Punishment within the PEET



You must solve 4 additional tasks to avoid the fine.

Figure B6: Work Task



O	P	K	B	O	D	H	C	M	K
C	M	Z	X	N	R	P	O	Z	S
S	K	M	K	Z	B	W	C	X	K
B	V	V	F	K	E	U	U	K	O
B	H	Y	N	F	A	O	B	V	R
P	K	K	Y	K	K	H	F	V	C
G	Q	V	K	Q	D	Q	W	T	K
R	W	B	G	X	K	T	B	D	K
K	S	H	R	Y	Z	P	T	A	O
X	J	W	S	R	X	K	A	D	A

Antworten

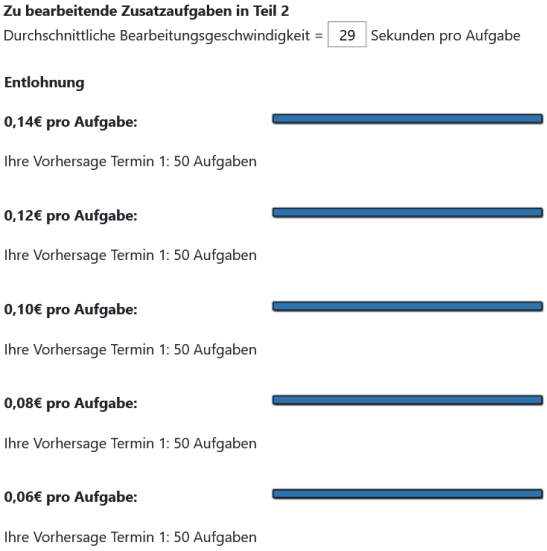
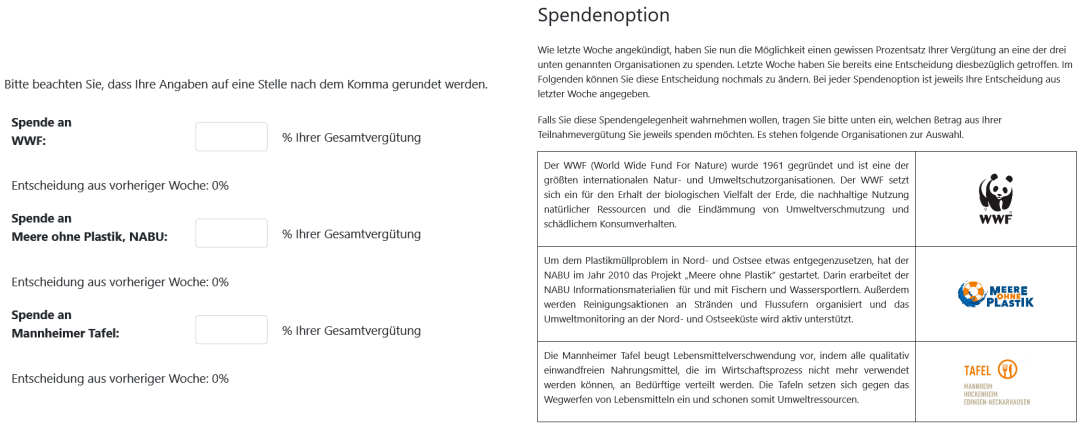


Figure B7: Donation Task



Within subject measures of regulatee size on demand for regulation

Given participants make a decision on interventions for the entire group, their preferences for interventions are assumed to be driven by two factors. On the one hand, the decision is influenced by the interventions they would choose for themselves. On the other hand, they are affected by interventions which participants would select for others on their behalf. In order to be able to control for both influences when analyzing participants decisions in the treatments 'group x immediate' and 'group x delay', I inquire these preferences in a within subject design in the session 2' post-questionnaire. The preferences for self-regulation are inquired, similar to the consequential choice in week 1, by asking participants to rank the interventions, assuming the regulatory devices would only affect themselves. The decisions on interventions on behalf of others are inquired by conveying that a certain share of participants in the experiment are assigned to an intervention exogenously. It is further explained to participants that they have the option to assign these interventions to these individuals by ranking them. If randomly chosen, this rank of interventions will then be implemented for the other individuals in a descending probability of the rank, with the first rank having the highest implementation probability. This rank will serve as a measure for the participants' preferences for interventions, given they choose on behalf of others.

Appendix C

C.1 Predictions of drivers of demand for interventions

In this part, I derive predictions for the variables perceived difficulty, valuation of the public good, prior beliefs of performance, and loss aversion regarding their influence on the demand for interventions. The analysis is based on the model described in the theoretical predictions in section 2.5.

To analyze the effects of the pro-environmental task's costs and benefits on the demand for interventions, I make two additional assumptions. First, the perceived difficulty of the pro-environmental task, a_i, determines the effort costs, $c(a_i\tilde{e}_i^d)$, with $\frac{\partial c()}{\partial a_i} > 0$. Second, the valuation of contributing to the public good, s_i influence the warm-glow utility obtained from the pro-environmental task, $v(s\tilde{e}_i^d)$, with $\frac{\partial v()}{\partial s_i} > 0$. Further, I assume that the parameters a_i and s_i have a direct influence on the development of marginal utility of the interventions with increasing $\tilde{e}_i^d$. Since v is concave and c is convex, I assume the second derivative term of $v(\tilde{e}_i^d)$ to decrease in s, $\frac{\frac{\partial v}{\partial \tilde{e}_i^{d2}}}{\partial s} < 0$ and the second derivative term of $c(\tilde{e}_i^d)$ to increase in a, $\frac{\frac{\partial c}{\partial \tilde{e}_i^{d2}}}{\partial a} > 0$. Thus, the perceived difficulty of the pro-environmental task has a positive effect on the marginal increase in the effort costs $c''(\tilde{e}_i^d)$, while the valuation of public good contributions is negatively related to the degree of decreasing marginal valuation of the pro-environmental behavior $v''(\tilde{e}_i^d)$. This implies that the lower the marginal increase in effort costs and the decrease in marginal valuation of benefits, the stronger the agent increases performance due to the interventions and thereby also the respective intervention-induced increase in utility.

Prior beliefs on the effort level in the pro-environmental task positively influences the demand for interventions, as an increase in the beliefs on effort provision leads to either a reduction of costs or an increase in benefits obtained from the intervention. This can easily be observed by the derivative of the interventions:

$$\omega_p'(\tilde{e}_i^p) = \omega_p(\tilde{e}_i^p + 1) - \omega_p(\tilde{e}_i^p) \geq 0 \tag{15}$$

$$\omega_m'(\tilde{e}_i^m) = m > 0 \tag{16}$$

$$\omega^{n\prime}(\tilde{e}_i^n) = n_i > 0 \tag{17}$$

Consequently, agent's who are overconfident will also have a higher demand for interventions than other agents, assuming equal distributions of actual effort levels across these groups.

Loss avers individuals assign larger weights to a monetary loss compared to a monetary gain of the equal size. Since the agents forms a prior belief of the distribution of effort levels, $(\tilde{e}_i)$, a part of this distribution can range in the loss domain of the effort-weighting-function in the case

of punishments and monetary incentive, i.e. $\tilde{e}_i < \bar{e}^p$ or $\tilde{e}_i < \frac{f}{m}$. Given the degree of loss aversion of an agent, λ_i, the expected outcomes in the loss domain are assigned a larger weight:

$$U(\omega_p) = \left(\int_0^{\frac{f}{m}} g(\tilde{e}_i) d\tilde{e}_i \text{ -} f \right) \lambda_i \tag{18}$$

$$U(\omega_m) = \left(\int_0^{\bar{e}^p} g(\tilde{e}_i) d\tilde{e}_i \, m - f \right) \lambda_i + \left(\int_{\bar{e}^p}^{\inf} g(\tilde{e}_i) d\tilde{e}_i \, m - f \right) \tag{19}$$

As the derivative of both expressions by λ is negative, $\frac{(\omega)}{\partial \lambda} < 0$, a larger degree of loss aversion leads to a lower demand for punishments and monetary incentives.

C.2 Welfare analysis

The results from Section 3 showed that both, delays in the pro-environmental behavior and increases in the regulatee size, lead to rises in demand for interventions on average. This effect is particularly strong for subgroups with certain characteristics. To identify possible benefits of these measures, in this section, I conduct a welfare analysis based on the corresponding variations in demand for interventions.

Since I elicit participants' willingness to implement an intervention at different prices within the experiment, these values can be used to assess welfare effects of the treatment measures, i.e., delaying the pro-environmental behavior and increasing the regulatee size. In Section 3.2, I demonstrated that demand for interventions decreases monotonically in its price. The resulting demand curves can be used to identify consumer surplus given certain prices of the intervention. For the welfare analysis, I use prices for interventions, which are equal to zero. In addition to this, given the treatment-induced increases in consumer surplus, I calculate the welfare equivalent subsidy required to induce a similar rise in demand. Table C1 shows the percentage increases in consumer surplus ($\triangle$ CS) and the welfare equivalent subsidy for each measure as well as joint effects, i.e., for 'delay', 'group2', 'group4' and 'group x delay'. Panel A shows the results for the average sample effects. I observe a substantial increase in consumer surplus in the demand for interventions given a delay of the pro-environmental behavior of 46.14%. This is equivalent to a subsidy for an intervention by 0.51€. The welfare benefits of increases in the regulatee size remain modest with 8.40% in case the intervention affects one additional person. In the event of three additional regulatees, a welfare loss of 24.24% is observed, resembling an increase in the price for the intervention by 0.35€. These moderate to negative welfare effects concerning increases in the regulatee size are driven by the respective inconsistent effect on demand at different prices. Thus, Figure 6 shows that the demand for the intervention increases primarily at prices between -2€ to 0.5€ due to increases in the regulatee size. Beyond prices

Table C1: Individual welfare benefits of delay and regulatee size effects on demand for interventions to pro-environmental behavior

		delay	group2	group4	group x delay
Panel A: average effects					
Sample average	△ CS	46.14%	8.40%	-24.24%	35.42%
	Welfare equ. subsidy	0.51€	0.11€	-0.35€	0.40€
Panel B: subsample effects					
Social disc	△ CS	95.72%	15.16%	-15.12%	52.86%
	Welfare equ. subsidy	0.8€	0.16€	-0.18€	0.51€
CC and Patern	△ CS	7.88%	24.36%	-6.84%	-18.69%
	Welfare equ. subsidy	0.14€	0.39€	-0.13€	-0.37€
Panel C: effects by intervention					
Nudge	△ CS	52.43%	24.10%	29.64%	77.58%
	Welfare equ. subsidy	0.31€	0.15€	0.18€	0.45€
Mon Inc.	△ CS	15.87%	15.68%	0.86%	18.10%
	Welfare equ. subsidy	0.11€	0.11€	0.01€	0.13€
Punishment	△ CS	29.05%	-12.05%	-54.29%	35.06%
	Welfare equ. subsidy	0.21€	-0.2€	-1.13€	0.26€

Note: '△ CS' denotes the change in consumer surplus given the respective treatment variation. 'Welfare equ. subsidy' states the price change which is equivalent to inducing the similar change in demand for interventions as observed by the respective treatment variation.

of 0.5, no such increases are observed. This explains the small to negative welfare effects for 'group2' and 'group4' on demand for interventions at prices of zero. In the last column of Panel A, I report the change in consumer surplus given a joint implementation of the treatment measures, i.e., if the pro-environmental behavior is delayed and the intervention affects at least one other participant. I observe that positive effects for consumer surplus of 35.42%, which represents an increase compared to the welfare effects of 'group2' and 'group4', but a slight decrease in the welfare concerning pure delay effects.

Panel B in Table C1 presents the welfare effects of the treatment measures for the subgroup of participants, on which the two treatment measures were particularly effective. The groups are given by participants who have a comparably high discount rate of warm-glow utility and participants who are conditionally cooperative and have paternalistic attitudes. Indeed, given delay effects, the consumer surplus almost doubles for the subgroup with a comparably large discount rate of warm glow utility (+95.72%). Moreover, compared to the average sample effects, for conditionally cooperative paternalists, I observe that welfare increases from 8.40% to 24.36% in

'group2' and from -24.24% to -6.84% in 'group4'.

Finally, Panel C in Table C1 reports the welfare effects of the treatment measures, 'delay', and 'group', on each intervention separately. According to the consumer surplus estimates in the case of 'Nudge', delaying the pro-environmental behavior or increasing the regulatee size leads to the largest enhancements of welfare across interventions ('delay': 52.43% , 'group2'. 24.10%, 'group4': 29.64%, 'group x delay': 77.58%). In the case of 'Monetary Incentives', the welfare benefits remain modest and range at increases between 0.86% in 'group4' and 18.10% given a joint implementation of measures in 'group x delay'. Delaying the pro-environmental behavior when offering punishments as an intervention acts welfare improving, as consumer surplus increases by almost 30%. Increases in the regulatee size when offering 'Punishment', however, should be avoided as this measure leads to welfare losses. The latter effect is likely to be driven by participants obtaining a negative utility from imposing punishments on others. This also explains the negative welfare effects for increases in the regulatee size to four participants when averaging over interventions in Panel A.

Hence, the analysis shows that strong welfare effects are achieved by delaying the implementation of the pro-environmental behavior, corresponding to welfare equivalent price subsidies, which range between 0.11€ and 0.8€. Instead, increasing the regulatee size in the context of interventions provides mixed evidence. If only one additional person is added, welfare of participants increases in most cases. However, when three other individuals are additionally affected by the intervention, only the 'Nudge' entails substantial welfare benefits.[35]

[35]The welfare analysis has limitations as the calculations are based on willingness to accept estimates, which are less conservative compared to a willingness to pay approach (Knetsch and Sinden 1984; Hanemann 1991). Also, the demand curves were elicited in an artificial environment on a student subject pool. This may harm the generalizability of the welfare effects (Levitt and List 2007).

Supplementary Material available via:
https://ftp.zew.de/pub/zew-docs/div/Preferencec_for_Env_pol_Supplementary_Material_Alt_2022.pdf

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