Essays in Public Economics: the Relationship between the Individual and the State

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Preface

> "*Anyone can achieve their fullest potential, who we are might be predetermined, but the path we follow is always of our own choosing*".
>
> Being and Time, Martin Heidegger

From the beginning of the field of economics, there was the assumption that individuals were rational agents. Adam Smith and John Stuart Mill described individuals that acted in ways that served their self-interest (Smith (1793), Mill (2016)). Terms like homo economicus or economic man were later coined following their work. By stating that they were rational, they could be described as maximizing a utility function that could be optimized, which made it relatively simple to explain their behaviors and easier to predict behaviors in economic or sociological models (Coleman (1961)). This assumption still serves as a building block when explaining microeconomics to undergraduate students at the University. It is not only implied in this assumption that individuals pursue their own self-interest, but that they are the best judges of whether their own action or decision will benefit or harm them in the pursuit of their goal. It is important to note that both Adam Smith and John Stuart Mill established the term as "self-interest" and not "best interest", that is because the objective was established by the individual themselves with no normative judgement attached. This assumption also entails that the individuals are free to pursue the objective that will serve their interest, that is, they are the ones that maximize their utility.

This assumption was weakened when in the field of psychology it was discovered that individuals violated the axioms that were considered rational. Specifically, Kahneman and Tversky (1979) found that losses loomed larger than gains, when in theory, both

decisions should be equivalent. In another example, there is also a significant proportion of individuals that violate the independence axiom, also called the Allais paradox. These violations indicated that the models that assumed rational behavior could not explain those decision from individuals. This shift in the assumption of rational agents opened a new field in economics called Behavioral economics. There has been countless empirical findings in which they find that individuals suffer from bounded rationality or biases like the confirmation bias, the anchoring bias, the consistency bias or behave in a way that express that they use their decision as a commitment device to ensure an outcome that they are not willing to make in the near-future and so on. Although those biases show that individuals are constrained in their decisions by those biases, the leap forward in the field was too large. Some economists and policy-makers concluded that individuals were incapable of choosing in their best interest and therefore somebody had to influence their decision or directly impose an action or behavior for them. This is the conclusion that Sunstein and Thaler (2003) reached. The government had to protect the individual from himself/herself and either constraint the choice set available or even choose for them in the absence of a decision of the individual to make them better off (by nudging or defaults). In the term coined by Dworkin (1972), Dworkin (2017), paternalism is "the interference of a state or an individual with another person, against their will, and defended or motivated by a claim that the person interfered with will be better off or protected from harm", we can extract three factors that are present in this definition of paternalism: lack of autonomy, non-consensual and welfare enhancing. Thus, the government would become the protector of the citizen from the decision of the citizen. We can see multiple policies that implement this view in the topics of pensions, health, safety and others.

However, there is a major flaw in the argument that since the individuals are not rational, others have to interfere in their decision and it is the fact stated by Wicksell (1969) and Buchanan and Tullock (1965), the state is comprised by individuals that are themselves economic agents that maximize their utility within a set of constraints, therefore they can also suffer from bounded rationality or biases as the rest of individuals, making them also unsuitable to direct or influence the decision-making of others.

Even acknowledging that individuals show behaviors in which they do not act in their best interest, like being addicted to drugs, shifting the agency from them to others does not decrease the effects of the negative consequences and could even aggravate the outcome, since the individual becomes dependent on the state and avoids the responsibility in that decision and subsequent decisions. The intervention from government acting paternalistically is not to equip the individual with all the knowledge and enhance their responsibility, but the contrary, substitute the will of the individual, therefore substituting their objectives and decreasing their effort to achieve their goals. These types of policies also increase the moral hazard problem, if I am not responsible for my actions, I am also not responsible for the consequences and thus I am more reckless. This mechanism does not only occur in the decision in which the government is interfering, it can also extend to other topics and areas, and for that reason makes the learning of the individual more difficult, since the most learning occurs when an individual makes mistakes. Taking away agency can also impact the formation of preferences of the individuals, as it restraints their freedom of choice to make decisions. In Gneezy et al. (2020), they find that just having the availability of agency has a positive impact on risk and time preferences, mainly they observe that providing individuals with the possibility of increasing the time to complete a task increased the patience and risk tolerance of the individuals, even though they did not exercise their agency by increasing the time allotted.

Even more, even if individuals exhibit inconsistent preferences or seem to make decisions that go against their objective, this is not sufficient to defend the intrusion from the government. As Sugden (2008) states, the fact that individuals have incoherent preferences is not sufficient to defend an interference in their decision-making, since there is not only a substitution of the behavior, but a substitution of the goal pursued, as the decision-makers of the state have different objectives than the individuals (the principal-agent problem, Meckling and Jensen (1976)). The government should establish the framework in which free decision-making is possible, not establish how decisions should be made, in other words, when the government was created, the government set up the rules of the "game", while now it is

determining what moves are allowed. It is interesting to note that one of the justifications for government intervention in decision-making is the lack of knowledge of the individuals that have to choose, however, instead of providing these individuals with the knowledge and information to make a better decision, the solution proposed by the proponents of the paternalistic policies is to influence or choose for them.

In this thesis, we want to analyze these types of policies and the impact on the individuals, in particular, in Chapter 1 and 2, we look at the determinants for which individuals accept these types of policies, specifically on the topic of pensions, when they want more intervention from the government or less and what is the relationship between themselves and others. We especially look at the relationship between knowledge, eccentricity and what level of intervention they want for others as factors that determine their overall preference for government intervention on pensions. We find that people that are more knowledgeable and people that perceive themselves to be more different than others in their pension planning are the ones that want less intervention from the government, while those that want more intervention are the ones that want more intervention for others, trust more the government and are the ones that are more likely to avoid responsibility for their decisions. In Chapter 2, we extend the research question by incorporating beliefs about others, specifically the belief about the level of knowledge of others, the belief about the pension coverage and the rate-of-poverty in retirement. We find similar results as in the first paper, the more knowledgeable an individual is the less regulation they want and the more regulation they want for others. In addition, respondents that overestimate the pension coverage for the low income earners are more likely to want less regulation for themselves and for others when presented with the actual coverage information.

In Chapter 3, we study the preference for intervention in the topic of assisted suicide, as in the topic of pensions, we measure the level of knowledge of the respondents on the topic and in what circumstances they want other people to access assisted suicide. We also test whether providing information on real-life cases changes the preference for regulation on this topic, mainly whether they are less favourable or more favourable to legalize assisted suicide. We find that presenting real-life cases makes respondents less willing to change their support and prevents them from changing to the extremes of the

distribution. We also find that those that are more knowledgeable about which countries have already implemented this policy and those who know about the current unregulated status in Germany are more likely to favour legalization, whereas those that accurately predict the number of deaths by assisted suicide in the Netherlands in 2023 are more likely to oppose legalization, although these results are not very strong.

In Chapter 4, the last chapter, we look at the relationship between having the possibility of delegating a choice or have a default that prevents them from choosing unless they acquire the decision rights (Delegation or Takeover). We provide respondents with different framings, either the Delegation framework (where the decision is to delegate or not),the Takeover framework (where the decision is to acquire the decision rights or not) or the Control group (where we provide a neutral framing where there is no third-party interference). By providing these different framings, we want to see the willingness-to-pay of respondents of choosing their preferred choice. We also investigate the difference between having a choice over gains or losses. We do not find a difference between gains or losses, but we do find that respondents have a lower willingness-to-pay when faced with a Delegation decision compared to those in the Control where they only face a decision over binary lotteries and the willingness-to-pay is even smaller when faced with a Takeover decision, so it seems that establishing a default makes respondents less willing to actually value choice, they are more decision avoidant.

Overall, in this thesis, we study the elements that influence the preference of individuals in wanting government intervention (what some scholars have named the Demand side of paternalism). Although there are several papers that look at the preferences of individuals on these types of policies, there is still much to uncover (Pedersen et al. (2014), Arad and Rubinstein (2018), Treger (2023)). We contribute to this literature with this research.

Chapter 1

Preferences for government regulation of pensions: What I want for myself and what I want for others

This chapter has been published [1] and it is joint work with Professor Konrad.

1.1 Introduction

This paper examines citizens' attitudes toward the government's regulation of pension savings. To understand governmental pension policy and to shape it toward improving welfare, it is important to understand the underlying factors that influence the degree of regulation that citizens prefer. Governments often introduce special savings plans, make a certain amount of savings mandatory, or restrict the types of assets allowed. Such restrictions can limit the flexibility of citizens in terms of choosing how much to save, what savings instruments to choose, or to make changes in their chosen portfolio structure. It is not surprising then that more individuals are not satisfied with the current system, because it reduces the possibility for each individual to manage their own savings, as well as not providing the percentage of income necessary when they retire, due to the demographic challenges faced in these countries.

There are many reasons why the state may intervene to regulate individual pension planning. Many of these have to do with redistribution issues, many of which are

[1] Sainz Villalba and Konrad (2024)

intergenerational in nature.[2] Other reasons for intervention have to do with the belief that people tend to make short-sighted decisions under mental constraints and therefore need to be protected from themselves through appropriate regulation.[3] A third rationale for or against government regulation is information. The state may have an information advantage over many citizens who are less informed, for example, with regard to macroeconomic and financial issues. However, citizens may also typically have an information advantage over the state with regard to their individual life plans and consumption preferences. Even though the government might have more data than the average individual on the general life expectancy of the citizens, this information might not be enough to implement policies that are sufficiently customized for individual citizens.[4] Our analysis focuses on explanatory factors that are rooted in such information asymmetries between citizens and the state.

The empirical literature has a number of findings on what drives individuals' preferences on the state regulation of pensions. Mandatory savings, as a compulsory policy that the individual cannot opt-out from, are the least liked intervention of citizens in the topic of savings, as shown by Treger (2023) and can also produce unintended consequences. Hurwitz et al. (2022) show that introducing minimum annuity laws (minimum amount required to save) leads to an anchoring effect where individuals use the minimum as a reference point, making low income earners choose higher annuities with lower annuities being chosen by high income earners. In addition, Mugerman et al. (2014) show that when individuals are given the choice between different asset classes without changing the level of the contribution as mandated by the regulation, they are more likely to choose what their peer group chooses. An important insight these authors provide is that introducing complexity (by increasing the number of funds available from 168 to 226 and erasing the employer influence over the employee) does not improve the savings

[2] A pay-as-you-go pension system, for example, delivers welfare gains to the first generations when the pay-as-you-go system is introduced or expanded, but later generations have to pay for these initial gains. See Fenge and Werding (2004) for a literature review and discussion.

[3] Such policies are often characterized by influencing or restricting the choice or choice options of the individual with the motivation to enhance the well-being of the individual (benevolence principle, Dworkin (1972), Dworkin (2017), Sunstein and Thaler (2003)).

[4] Hurwitz et al. (2022) show that providing people with information on their life expectancy (average number of life years remaining) does not change their financial savings behavior, but informing them on their longevity risk (the probability of living to a very old age) does change their behavior.

decisions and makes individuals resort to simple heuristics by looking at what their peers do. Duflo and Saez (2003) show that, at a university, employees are more likely to enroll in a Tax Deferred Account Retirement Plan if their peers in the same department also enroll. They are also more likely to enroll if in their department there was someone who received an invitation to an information session, thus showing the effect of information exchange and peer effects at the workplace.

In this study, we want to tackle three research questions: how does a citizen's financial literacy affect the preference for more or less regulation of pension policies, how does perceived eccentricity affect this preference, and what is the relationship between the citizen's preference for how he should be regulated by the government, and the citizen's preference for how much the government should regulate the population as a whole.

The possible role of a citizen's financial literacy and a citizen's eccentricity in its life perspective is inspired by Konrad (2024) work, where he offers an information theory-based reasoning suggesting that eccentricity of own preferences and own capability in terms of expertise/knowledge and decision skills make decision autonomy more desirable for the citizen. Intuitively, his reasoning is that the government can only establish a one-size-fits-all policy. This policy would be geared toward the average citizen. It can therefore not take into account citizens' idiosyncratic preferences with pinpoint accuracy. Also, citizens with high financial literacy might simply be better off following their own judgment than a one-size-fits-all government policy.

Empirically, an extensive literature studies the complex connections between numeracy and cognitive ability more generally, financial literacy and knowledge, and decision-making on pension savings and the quality of financial market decisions. In Gustman et al. (2012), they find that there is no relationship between numeracy and non-pension wealth. In the literature review by Kim et al. (2017), they cite several works that find a relationship between financial literacy and financial planning, savings participation, and wealth accumulation. Chan and Stevens (2008) argue that only those with financial knowledge react to financial incentives such as changing the age of retirement and the cost of early retirement. Eberhardt et al. (2022) find that beliefs about susceptibility, severity, benefits, barriers, and self-efficacy are determinants for

whether people will exert effort to search for pension information. Therefore, it seems that the main finding in the literature is that those with financial knowledge are more likely to have savings and they are the ones who are more likely to search for information regarding their pension plans for retirement. However, these papers, as far as we are aware, have not looked at the relationship between being informed and the degree of intervention they would like from the government; we hypothesize that those that are more informed would like less intervention from the government.

Some work addresses the determinants of how much paternalism citizens like for their co-citizens. Ambuehl et al. (2021), for instance, make it clear that there may be many reasons why individuals favor more or fewer restrictions on others' autonomy to make good choices. One reason, for instance, they may or may not trust the average citizen's ability to make good decisions, may consider the members of the general population to be uninformed, or suffer from other forms of behavioral traits that prevent their fellow citizens from "good" decision-making. They may then understand governmental paternalism as a well-meaning altruistic activity (also found in Lassen and Mahler (2023)). Citizens in their role as choice architects may also be interested in government regulation of old-age savings because it produces specific redistributive outcomes, some of which benefit or harm the 'choice designer.' Their finding leads them to conclude that choice architects are not correcting the behavior of choosers so as to decrease the degree of mistakes they would make (mistakes-projective paternalism), but that they restrict choice in order to match their own goals or aspirations (ideals-projective paternalism). Intersubjective sentiments, from disfavor and envy to altruism, in-group favoritism, outgroup spite, and preferences for greater homogeneity in society (see, e.g., Inderst et al. (2019), for the latter) may be further reasons for advocating a particular kind of regulation intensity by the state.

Døssing and Lassen (2019) show that people who are more competent (on the choice between lotteries that differ in their first and second-order stochastic dominance) are less likely to be paternalistic toward others. The more knowledgeable they are, the less likely they will restrict the choices of others. Van Dalen and Henkens (2018) study whether Dutch workers actually value freedom of choice in their pension decisions. They find

that respondents would both like to have freedom of choice to have the option to choose certain parameters of their pension fund like the level of pension savings, the pension package, and the risk composition of investments, but they would also like to delegate these decisions to the pension fund firm. In addition, they find that solidarity (wanting others to have an appropriate level of pension in retirement) and trust in pension funds are factors that affect their valuation of freedom of choice. Those that have a low level of solidarity and a low level of trust are more likely to want more freedom of choice. It is important to note that unlike us, they are not looking into government regulation, but at collective pension contracts within a firm. Lassen and Mahler (2023) find that people who are going to be affected by a policy are the ones that are more opposed to coercive regulation (e.g., ban on smoking). It is important to note that they do not have a measure of value for autonomy or freedom of choice, unlike our paper.

Our main findings are that there is a relationship between knowledge and paternalism attitudes along the reasoning in Konrad (2024). Citizens who are more informed and therefore more prepared to make good choices tend to prefer own decision autonomy rather than being paternalized by the government. This result is also corroborated in the literature, where the more financially literate are less favorable to redistribution policies from the government (Montagnoli et al. (2016)). However, whereas with redistribution policy there is a clear income effect, where those that have a higher income will be less favorable to redistribution, it is not so clear whether those with a higher income will be less favorable to pension regulation, since they might benefit from the policy as well.[5] Furthermore, we find that people who perceive themselves as being different from the population in terms of their pension preferences also tend to dislike being paternalized. These results corroborate our hypotheses. However, we should note that our findings are only correlational and are not necessarily causal.

In terms of the determinants for citizens wanting to regulate others, there is a strong correlation between their preferences for being regulated themselves and their preferences for regulating others. Interestingly, knowledge affects this relationship. Our results suggest that those people who are more knowledgeable are at the same time the

[5] When we control for income, we find that our findings are unchanged, see Table 1.15 in the Appendix.

least likely to want to be regulated and the most likely to want to regulate others. We also find that those people who perceive themselves as being different from the rest in their pension preferences and who do not want to be regulated themselves are also the ones that are more likely to want more government regulation for others.

This paper is organized as follows. In Section 2 we explain the data used and the methodology, in Section 3 we explain the theory and the hypotheses. In Section 4 we show the results, in Section 5 we discuss the mechanisms and findings, and in Section 6 we conclude with a consideration of the limitations and the avenues for future research.

1.2 Data

We conducted a survey in June 2022 with a sample of 439 respondents [6], representative of the German population. The sample is representative with respect to sex, age, income, and state of residence, as can be seen by comparing the sample means and the population means in Table 1.1. In Table 1.2, we can see the descriptive statistics of our sample. The average respondent is 48 years old, unmarried, living with another person, without children, with a monthly income of between 2,500 and 4,000€ and with at least a high school education (see Table 1.9 in the appendix for detailed description of categories in each variable). The survey took approximately 14 minutes and it was distributed by the company Bilendi & respondi.

[6] EGAP registry - registration ID 20200624AB.

Table 1.1: Representativeness of our sample

VARIABLES	Sample Mean	Population Mean
Female	0.513	0.51
Age_btw_18_29	0.171	0.17
Age_btw_30_39	0.166	0.16
Age_btw_40_49	0.150	0.15
Age_btw_50_59	0.203	0.20
Age_more_than_60	0.310	0.31
Income_less_1500	0.173	0.17
Income_btw_1500_2500	0.253	0.26
Income_btw_2500_4000	0.308	0.31
Income_more_than_4000	0.267	0.26
Baden_Württemberg	0.132	0.13
Bayern	0.164	0.16
Berlin	0.0410	0.04
Brandenburg	0.0319	0.03
Bremen	0.00911	0.01
Hamburg	0.0205	0.02
Hessen	0.0683	0.07
Mecklenburg_Vorpommern	0.0159	0.02
Niedersachsen	0.100	0.10
Nordrhein_Westfalen	0.221	0.22
Rheinland_Pfalz	0.0478	0.05
Saarland	0.00911	0.01
Sachsen	0.0478	0.05
Sachsen_Anhalt	0.0273	0.03
Schleswig_Holstein	0.0319	0.03
Thüringen	0.0319	0.03

Table 1.2: Summary Statistics

VARIABLES	Mean	Sd	Min	Max
Female	0.513	0.500	0	1
Age	47.57	14.86	18	69
Civil Status	1.542	0.499	1	2
Adults in Household	1.863	0.827	0	5
Children in Household	0.333	0.711	0	4
Income	2.877	1.439	1	7
Education	3.740	1.025	1	5

Notes: Income is a categorical variable that takes values from 1 to 7, where 1 means incomes less than 1500€ per month, 2 means income between 1500 to 2500€, 3 means income between 2500 and 4000€, 4 means income between 4000-5000€, 5 means income between 5000 and 6000€, 6 means income between 6000 and 7000€, and 7 means more than 7000€. Education is a categorical variable that takes values from 1 to 5, where 1 corresponds to No schooling, 2 corresponds to Hauptschule o.ä, 3 corresponds to Mittlere Reife, 4 corresponds to Abitur o.ä (High School), and 5 corresponds to Hochschul/Fachhochschulabschluss o.ä (University).

For our main dependent variables, we asked respondents whether they would like the state to intervene more or less in their financial retirement decisions. Specifically, the (translated) wording of the question is "Financial retirement planning requires decisions about how much to set aside for retirement or save under Social Security, when to do so, and other decisions for your retirement. The state intervenes in your decisions here to some extent, but also leaves many decisions up to you. How do you rate this policy?" The responses go from "The state should leave much more freedom (1) to "The state should take over many more decisions about my old-age provision" (5). Thus, the main dependent variable measures the degree of desired delegation of the respondent, with a Likert scale from 1 to 5, where 1 means that the respondent has the least desire to delegate choice (restricted in their decisions) and 5 is chosen by respondents with the highest desire to delegate choice. We denote this variable as the Delegation preference.

We construct a dummy variable where we capture the Delegation preference by assigning the value of 1 to those who responded with either 4 or 5 (more or much more intervention). We do not use the variable with all its categories in the main estimations as the LPM or the logit model allows us to compare between the groups that we are interested in, mainly those that want less regulation with the rest and those that want more regulation with the rest. The analysis of the dependent variable with all its categories does not provide the identification of the factors that are uniquely correlated with each group, although

we also show those estimations in the appendix, we do not find qualitatively different results (tables 1.10, 1.11, 1.12, 1.13, 1.14 in the appendix).

We correlate these measures with three main explanatory variables. The first of these variables measures how different respondents perceive themselves with respect to the majority in terms of their pension preferences (i.e., their eccentricity). More specifically, the (translated) question is: "If you compare your ideas about how your retirement plan should be structured with those of the majority of the population: Which of the following three answers most closely describes your views? My ideas...

- Largely agree with what the majority of the population feels is right for them (1)
- Partly deviate from what the majority of the population feels is right for them (2)
- Differ significantly from what the majority of the population feels is right for them (3)

Answers range from 1 to 3 on a Likert scale, where 1 is that they perceive no difference, 2 they perceive a slight difference, and 3 they perceive a high difference.

The second variable measures the respondents' perceived financial knowledge compared to that of the majority (Perceived level of knowledge). Possible answers range from 1 (being much less informed) to 5 (being much more informed). More specifically, we ask: "If you compare your level of knowledge about financial matters in general and about your existing retirement savings alternatives with that of the general population: Which of the following statements most closely describes your assessment?

- Much less informed than most other people (1)
- Somewhat less informed than most other people (2)
- About as informed as most other people (3)
- Somewhat better informed than most other people (4)
- Much better informed than most other people (5)

Third, we measure actual financial knowledge, constructed with four financial literacy questions. We construct a variable (number of correct knowledge questions) that takes a

value from 0 to 4 depending on the correct responses to the financial literacy questions (see the appendix for details on each question).

To try to disentangle the preference of what people like for themselves versus what they like for the general population, we ask respondents to think as a Minister of Labor and state whether they would like less/same/more intervention from the government over the pension decisions of others. This variable measures how much paternalism citizens like vis-à-vis others, with a Likert scale from 1 to 5, where 1 is the least paternalistic and 5 the most paternalistic, that is, they want more regulation over pensions for the general population. We construct a dummy variable where we capture the paternalism preference for others by assigning a value of 1 to those who responded that they advocated much more intervention (i.e., answered "5" on the Likert scale).

While these are our main explanatory variables, we collect information about age, gender, education, income, trust in political institutions, political affiliation, avoidance of responsibility questions, and choice premium questions, among others.

When we look at the distribution of responses, from Figure 1.1 we can see that respondents differ in how much intervention they want in their pension decisions. We can divide respondents by those who desire more intervention (response of either 4 or 5), those that prefer the status quo (responded with 3), and those that prefer less government regulation in their own pension decisions (a response of 1 or 2). By doing so, we can see that roughly 40% of respondents prefer the status quo, about 30% want more regulation for themselves, and about 30% want less regulation.

When first looking at the summary statistics table of the main dependent and independent variables (Table 1.3), we can see that the average response is the status quo over pension regulation: 2.943. Also, as seen in the distribution, there is enough variation to study the responses that want more and less regulation, as there is a 1.144 standard deviation (which means that there are sufficient responses that depart from the status quo). We can also see that, on average, people perceive themselves as having a similar level of knowledge as the majority (Perceived level of knowledge: 3.134). They feel a slight difference in their pension preferences compared to the majority (Perceived Eccentricity: 1.852) and, on

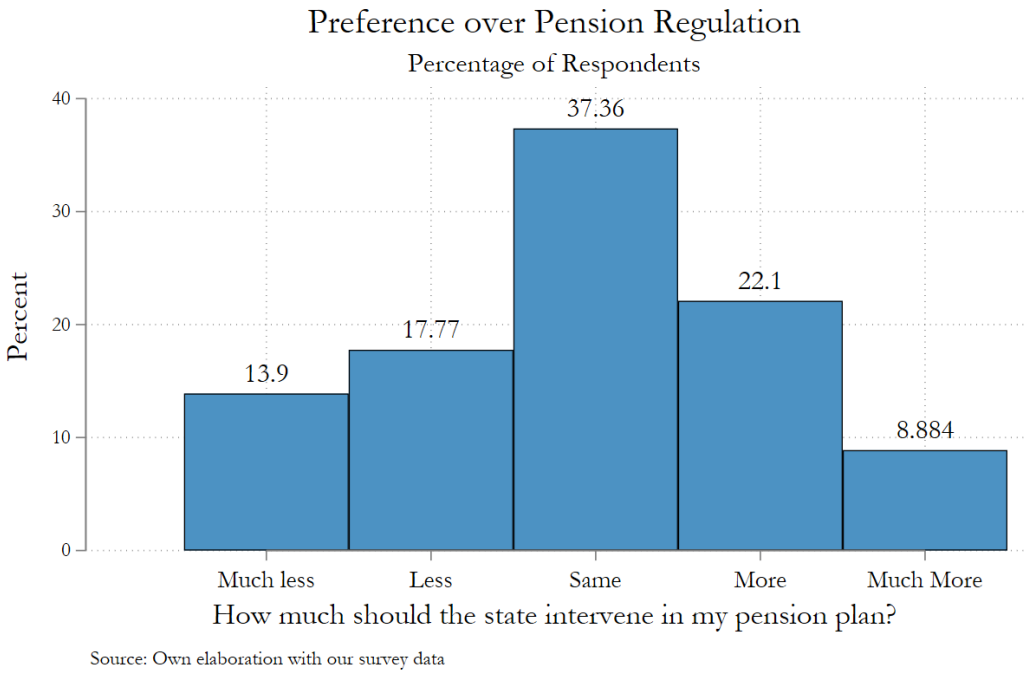

Figure 1.1: Heterogeneous preferences for the desire for governmental regulation of own pension savings decisions

Table 1.3: Descriptive statistics of dependent and independent variables

VARIABLES	Mean	Sd	Min	Max
Delegation preference	2.943	1.144	1	5
Perceived level of knowledge	3.134	0.950	1	5
Number of correct knowledge questions	2.859	1.103	0	4
Perceived eccentricity	1.852	0.651	1	3
Paternalism preference	3.319	1.083	1	5

average, they would impose the same level of regulation that is currently in place when choosing as the Minister of Labor (Paternalism preference: 3.319). The average number of correct responses on the knowledge questions is almost 3, so on average they respond to three of the four questions correctly.

1.3 Theory and Hypotheses

1.3.1 How much pension regulation do I want for myself?

First, we look at citizens' attitudes toward the question of whether they would like more or less intervention from the state in their own pension decisions. In addition to

intrinsic factors inherent in the psychology of individuals, there are economic reasons that lead people to want to make decisions themselves rather than delegate them to government agencies. Good decisions are based on good information. As described in the introduction, information asymmetries exist between individuals and the state. There are factors relevant to decision-making that tend to point in the same direction for all citizens, such that the government can exploit economies of scope. In the area of retirement planning, the state may, for instance, have superior information about general life expectancy or longevity risk and about systematic structural problems in the financial markets for retirement products. This information is equally or more relevant to all citizens. Therefore, the state has an advantage when it comes to decisions that are liked or disliked by everyone, as there is no conflict of interest. However, there are also factors that are inherent in the individual's situation and life planning. Government agencies may know the statistical distribution of such preferences, but not the preferences of each individual citizen. The state has a disadvantage when it comes to accounting for idiosyncratic aspects. Furthermore, for the individual citizen it is also relevant to have sufficient information to have the ability to weigh the advantages and disadvantages of choice alternatives.

The considerations on information advantages and information disadvantages between the state and the citizen hinge on the assumption that the state, should it decide, administers the policy in the best interests of its citizens. One might note, however, that state decision-making behavior is not necessarily characterized by benevolence. Even if the public decision-makers were aware of the individual tastes of individual citizens, they may weigh individual factors differently than the citizens themselves would. In addition, government agencies may pursue a different broader or personal agenda that does not fully reflect the preferences of citizens (principal-agent problem). Based on a theory that takes into account that each state decision-maker is itself an economic actor maximizing its own utility within the set of constraints (Wicksell (1969); Buchanan and Tullock (1965)), there may be systematic variations in state decision-making behavior in this principal-agent relationship between the state and the individual citizen.

How the citizen views the principal-agent relationship between the state and the citizen should therefore also be an important factor in determining whether the citizen desires decision-making autonomy or is happy to delegate decisions to the state.

From these considerations, we can hypothesize that individuals who are objectively more informed, those that have a higher number of correct responses to the knowledge questions, want less regulation at the individual level on the topic of pensions:

> **H1:** *"Individuals that are more financially literate want less regulation from the government on the topic of pensions; in other words, they want more freedom to decide for themselves".*

Similarly, citizens with eccentric preferences that deviate from the median are not well represented by the majority-oriented tailoring by the government. They also have an informational advantage over their own preferences with respect to what financial retirement plan fits them best. This leads to:

> **H2:** *"Individuals that perceive themselves as more different from the majority with respect to their pension preferences want less regulation from the government."*

Even if there is no information advantage on the part of the individual on their optimal pension plans, they might consider that the government is not utilitarian, but acts with different motives that are not aligned with the citizens' own best interest, so that they would also oppose intervention from the government for that reason:

> **H3:** *"Individuals that distrust the government want less regulation from the government on the topic of pensions. They want more freedom to decide for themselves."*

Furthermore, citizens who are skeptical of the functioning of the government also want less government involvement in all areas. They might like the government to perform fewer tasks. They would also be the ones who would like less regulation on the topic of pensions. So that the desired size of the government sector might be a variable that

similarly impacts trust or mistrust in the functioning of government. We can restate H3 as:

> **H3':** *"Individuals that want a smaller size of government want less regulation from the government on the topic of pensions. They want more freedom to decide for themselves".*

Buchanan (2005) hypothesized that citizens might want to delegate decision rights to the government because they shy away from the responsibility that decision-making implies. Citizens who want to avoid responsibility for their own decisions will want more regulation from the government. While we can leave open here whether such a desire to avoid responsibility is due to a lack of willingness to exert effort to get the information that is needed for good decision-making, or because delegating their decision frees them from the burden of decision stress or the decision outcomes, it leads to the following hypothesis:

> **H4:** *"Individuals that avoid taking responsibility for their own actions and decisions want more regulation from the government on the topic of pensions; they want less freedom to decide for themselves."*

By symmetry, there could also be citizens who enjoy having control of their own life and an intrinsic benefit from making their own decisions, which forms the following hypothesis:

> **H4':** *"Individuals that have a choice premium, that is, who want to have control over their decisions, want less regulation from the government on the topic of pensions. They want more freedom to decide for themselves."*

1.3.2 How much pension regulation do citizens want for the general population?

We now turn to the question of what motivates citizens' views about how their fellow citizens should be regulated. Again, we focus on motives that are borrowed from the literature (see, e.g., Ambuehl et al. (2021)). We might ask, do citizens want to make their fellow citizens happy by honoring the fellow citizens' preferences on whether to delegate their decision rights to the government? Put differently, are they motivated by a desire to implement the regulation regime that their fellow citizens presumably

prefer? [7] Or are citizens' preferences about what they want for others outcome-oriented and guided by what the respective regulatory regime presumably leads to? For instance, citizens might want to correct behaviorally observed or claimed biases in human decision-making behavior. Behavioral economics has shown empirically or experimentally that a wide array of such decision anomalies might exist. In the context of pensions, studies have shown that excessive impatience, hyperbolic discounting, information avoidance or the inability to imagine future needs with adequate intensity (Greenberg and Hershfield (2019); Hertwig and Engel (2016)) are particularly worth thinking about.

These motivations might be guided by the beliefs of the choice architect regarding the characteristics or capabilities of the fellow citizens. Depending on whether the choice architect believes that the rest of the population is similar to them or not, they will have a similar or different preference for the type of regulation that applies to themselves and the type of regulation that applies at the societal level. Research in psychology has documented that individuals might use their own characteristics or preferences to form prior beliefs about others. The term social projection (Allport (1924); Cho and Knowles (2013)) is used to describe this heuristic. Assuming that citizens will also use this heuristic in their roles as choice architects, this leads to the hypothesis

> **H5:** *"Individuals choose for the general population as a whole what they choose for themselves."*

The choice designer may also have reason to believe that she differs from her fellow citizens in terms of her preferences and knowledge. In this case, these other reasons should become more prominent: for instance, choice designers who consider themselves to be above average in knowledge and decision capability may be more likely to think that autonomy is good for themselves but that it is good for their fellow citizens if the state decides for them. This leads to a further hypothesis:

> **H6:** *"Individuals that are more financially literate want more regulation for the general population as a whole on the topic of pensions."*

[7] Such altruistic motives have a long tradition in economic theory (see, e.g., Smith (2011), Becker (1974)).

Following the same logic, individuals that perceive themselves to be more eccentric in their preferences would want less regulation for themselves but would want the government to regulate the decisions of others more, as they can think that a homogeneous standard for the population as a whole is in the best interest of the population.

> **H6':** *"Individuals that perceive themselves to be more different from the majority with respect to their pension preferences want more pension regulation for the general population as a whole."*

Furthermore, we might look at how the correlation between what regulation citizens want for themselves and for the general public is affected by the financial knowledge or capabilities that citizens have. Their own financial literacy might make them understand that their autonomous decisions might be quite good for themselves, and they might at the same time understand that others might lack the knowledge to make good decisions. This leads to hypothesis H7:

> **H7:** *"Individuals that are more financially literate and want less regulation for themselves want more regulation for the general population as a whole on the topic of pensions."*

Some individuals might prefer decision autonomy for themselves, even though they lack the knowledge to make decisions on pensions, but do not want to grant rights for autonomous decisions to their fellow citizens.

> **H7':** *"Individuals that are less financially literate and want less regulation for themselves want more regulation for the general population as a whole on the topic of pensions."*

Similarly, there could be citizens who are less financially literate and, for that reason, want more regulation for themselves. Still, they might like to grant freedom rights to others and therefore would not like to impose such regulatory restrictions on their co-citizens. They might prefer to be autonomous.

H7'': *"Individuals that are less financially literate and want more regulation for themselves want less regulation for the general population as a whole on the topic of pensions."*

Summarizing this, we have an individual dimension (what regulation density does the respondent want for him or herself?) and a societal dimension (what regulation density does the respondent want for others?). This defines four possible types of individuals and gives us a 2x2 matrix into which the subjects can be sorted (see Table 1.8 in the Results section).

Many other possible hypotheses can be inductively reasoned, but H1–H7 are the ones we can test with our data. For example, it is possible that citizens' choices have externalities, including repercussions on the welfare of the choice designer. A self-interested choice designer will include this in his or her calculus when making societal choices as a minister. The specific hypotheses that can be derived from such considerations are very diverse and not all of them are uniformly directed. They also depend on the indirect effects assumed by the choice designer. A choice designer may simply be animated by other- regarding preferences and may enjoy it when society is doing well (altruism) or when it is doing poorly (spite). The designer's conception of how a paternalistic state will use its power also plays a role. Will she benevolently want to make the population happy, or will she misuse its power for her own purposes? To be sure, no arbitrariness follows from these considerations. Similar considerations apply if respondents have other-regarding preferences, or feel responsible for them (Dressler and Mugerman (2023)). Specific hypotheses about certain correlations can be derived from such considerations, but their analysis is reserved for future data collection.

1.4 Results

1.4.1 How much regulation do I want for myself?

To address this question we look at the Delegation preference, that is, the dummy variable that is 1 for citizens who want more regulation for themselves (Delegation preference either 4 or 5), and the Autonomy preference where this dummy is 1 for citizens who want

more autonomy for themselves (Delegation preference either 1 or 2). We use a linear probability model that provides marginal effects directly. We checked to find that using logistic regressions yield very similar results.

In Table 1.4, columns 1 and 3 reports the results for those that want more regulation for themselves (Delegation preference) and those that want less regulation for themselves in columns 2 and 4 (Autonomy preference). In columns 3 and 4 we conduct the same regressions including Paternalism preference and age categories and gender as controls. We split the variable into dummies to try to identify whether the determinants for each side (pro-delegation vs. pro-autonomy) of the variable are equivalent or not, for example, if those that are more informed want more autonomy and those that are less informed want more delegation[8]. In column 3, we can see that the only variable that is significant is Paternalism preference, so that it seems that actual knowledge and eccentricity are not driving the preference for wanting more regulation for oneself. When we look at column 4 (Autonomy preference), we find that actual knowledge (#_correct_know_q=4) and eccentricity have a significant relationship with a lesser liking of being regulated by the government on pensions (as we hypothesized in H1 and H2). It should be noted that in this regression actual knowledge is a dummy variable that only takes a value of 1 if the respondent answered all four questions correctly, since the majority of people answered three questions correctly. It is interesting to see that their perceived knowledge, whether they consider themselves to be more informed than others, does not have a significant explanatory power for either the Delegation preference or the Autonomy preference. This need not be a systematic misperception about their actual knowledge or skills: a respondent might consider herself more informed than others, and still might have very limited knowledge. When we correlate the perceived level of knowledge with the actual

[8]We also report in the appendix different robustness checks using the entire distribution of the raw variable, which show similar results (we specifically show an OLS regression Table 1.10, an ordered probit Table 1.11, a multinomial logit Table 1.12, LPM regressions showing each individual category separately Table 1.13. Subsetting the data we compare in one regression those that want more regulation to those that are satisfied with the current regulation, a second regression where we compare those that are satisfied with the current regulation to those that are not, and a third regression where we compare those that want more regulation to those that are satisfied with the current regulation - Table 1.13). We can see that in all of the specifications that the results do not qualitatively change, specifically, actual knowledge, perceived eccentricity, and paternalism (i.e., wanting more regulation for others more generally) remain statistically significant.

knowledge variable, we see that there is only a weak correlation of about 0.32. Since the two variables seem to be measuring different things, as people perceive they are more or less informed than they actually are, we will include both variables in each regression.

In Table 1.5, we include the variable of number of financial literacy questions answered correctly (#_correct_know_q). We can see that there is only a significant relationship when the respondent answered all questions correctly (4 out of 4) and only for the respondents with an Autonomy preference for pension regulation (only for those that want less or much less regulation). In other words, it seems that answering all questions correctly increases the likelihood that a respondent wants less or much less regulation by 16.1 percentage points with respect to the base reference group of individuals that answer two questions correctly.

Result 1: As stated in H1, individuals with the highest financial literacy want less regulation from the government on the topic of pensions.

Result 2: As stated in H2, individuals who perceive themselves as more different from the majority with respect to their pension preferences want less regulation from the government.

While it seems clear that what drives the Autonomy preferences (column 2) is financial literacy and perceived eccentricity, we can see that the determinants for the Delegation preferences (column 1) remain a bit of a mystery since the only variable that seems to be significantly correlated with it is the variable on the preference for regulation for the population as a whole (Paternalism preference). When we include trust on political institutions as an independent variable to test our hypothesis H3, we can see in column 4 that respondents that trust the political institutions are less likely to want less regulation (similar to Van Dalen and Henkens (2018)), but they are not necessarily the ones that want more regulation in column 3, they are actually the ones that are satisfied with current regulation (unlike Lassen and Mahler (2023)). Following on the variable of trust in political institutions, we also asked respondents whether they would like the government to be more involved in all aspects of life or only in basic tasks, we rename this variable size_gov, and hypothesize that those who would like a bigger government (either 4 or

Table 1.4: Delegation Preferences and Autonomy Preferences on Pensions by knowledge and eccentricity

	(1) Delegation	(2) Autonomy	(3) Delegation	(4) Autonomy
perceived_knowledge=4 or 5	0.0855	0.0329	0.0899	0.0389
	(0.0867)	(0.0870)	(0.0881)	(0.0872)
#_correct_know_q=4	-0.0301	0.151***	-0.0263	0.145***
	(0.0468)	(0.0476)	(0.0467)	(0.0486)
perceived_eccentricity=3	0.0240	0.182***	0.00122	0.190***
	(0.0652)	(0.0681)	(0.0626)	(0.0698)
Paternalism=5			0.377***	-0.0297
			(0.0724)	(0.0693)
Female			0.00703	0.0273
			(0.0450)	(0.0460)
Age_btw_30_39			-0.129*	0.0210
			(0.0762)	(0.0735)
Age_btw_40_49			-0.136*	0.0913
			(0.0774)	(0.0767)
Age_btw_50_59			-0.0707	0.103
			(0.0762)	(0.0747)
Age_more_than_60			-0.104	0.0346
			(0.0689)	(0.0633)
Constant	0.310***	0.233***	0.352***	0.174***
	(0.0286)	(0.0267)	(0.0674)	(0.0613)
Obs	439	439	439	439
R-squared	0.00382	0.0495	0.0804	0.0566

Robust Standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Notes: The four columns represent the estimations for the same regressors, but for the two different ways of breaking up delegation preferences into dummies. The "Delegation" column gives delegation preferences a "1" if respondents answered that they wanted the state to regulate more or much more on pension regulation, and zero otherwise. The "Autonomy" column gives the right-hand side dummy variable a "1" if respondents answered that they wanted less or much less regulation. Hence, the two estimations differ with respect to whether the neutral answer is collapsed with the paternalism preferences or with the autonomy preferences. The reference group is males with ages between 18 to 29 years. Perceived_knowledge=4 or 5 is a dummy variable that takes the value of 1 if the respondent believes they are more or much more knowledgeable than the majority. 4_correct_know is a dummy variable that takes the value of 1 if the respondent answered all 4 financial literacy questions correctly. Perceived_eccentricity=3 is a dummy variable that takes the value of 1 if the respondent believes they have very different pension preferences than the majority of the population. Paternalism is a dummy variable that takes the value of 1 if the respondent wants much more government regulation for the population as a whole.

Table 1.5: Delegation Preferences and Autonomy Preferences by knowledge, eccentricity and trust in government

	(1) Delegation	(2) Autonomy	(3) Delegation	(4) Autonomy
perceived_knowledge= 4 or 5	0.0807	0.0432	0.0788	0.0553
	(0.0880)	(0.0884)	(0.0876)	(0.0875)
#_correct_know_q=0	-0.0655	0.112	-0.0668	0.120
	(0.119)	(0.127)	(0.118)	(0.119)
#_correct_know_q=1	-0.0969	0.0410	-0.0987	0.0515
	(0.0925)	(0.0898)	(0.0930)	(0.0858)
#_correct_know_q=3	-0.0656	0.00895	-0.0651	0.00590
	(0.0622)	(0.0613)	(0.0622)	(0.0606)
#_correct_know_q=4	-0.0725	0.161***	-0.0722	0.159***
	(0.0608)	(0.0607)	(0.0607)	(0.0600)
perceived_eccentricity=3	0.00781	0.187***	0.0121	0.161**
	(0.0632)	(0.0704)	(0.0635)	(0.0693)
Paternalism=5	0.379***	-0.0275	0.380***	-0.0363
	(0.0718)	(0.0693)	(0.0716)	(0.0688)
trust			0.0365	-0.221***
			(0.0571)	(0.0472)
Constant	0.391***	0.152**	0.381***	0.213***
	(0.0739)	(0.0663)	(0.0749)	(0.0685)
Gender and Age controls	Yes	Yes	Yes	Yes
Obs	439	439	439	439
R-squared	0.0841	0.0588	0.0849	0.0893

Robust Standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Notes: The "Delegation" column gives delegation preferences a "1" if respondents answered that they wanted the State to regulate more or much more on pension regulation, and zero otherwise. The "Autonomy" column gives the right-hand side dummy variable a "1" if respondents answered that they wanted less or much less regulation. perceived_knowledge=4 or 5 is a dummy variable that takes the value of 1 if the respondent believes they are more or much more knowledgeable than the majority. #_correct_know_q is a categorical variable taking values from 0 to 4 depending on the number of financial literacy questions answered correctly. perceived_eccentricity=3 is a dummy variable that takes the value of 1 if the respondent believes they have very different pension preferences than the majority of the population. Paternalism is a dummy variable that takes the value of 1 if the respondent wants more government regulation for the population as a whole. Columns 3 and 4 have the same variables as columns 1 and 2, but we include trust, trust is a dummy variable that takes the value of 1 if the respondent trusts the political institutions. The reference group is males with ages between 18 to 29 years that only answered two out of four financial literacy questions correctly.

5) are the people that are more paternalistic (H3'). We can see in Table 1.6 that our hypothesis seems to hold, irrespective of how the dummy variable is constructed: people that like a bigger government are more likely to have Delegation preferences and are less likely to have Autonomy preferences.

Result 3: As stated in H3, individuals who distrust the government want less regulation for themselves.

Result 3': As stated in H3', individuals who favor a smaller size of government want less regulation for themselves.

To see whether we can uncover a higher explained variation (explained sum of squares) of the Delegation preferences variable, we include two control variables that when constructing our survey, we thought would be important to explain why people would like the state to regulate more. These are the avoidance of responsibility and the choice premium variables. We have two avoidance-of-responsibility statements[9] and two choice-premium statements [10]. With the avoidance-of-responsibility measures, we wanted to capture the degree to which the respondent does not like to take responsibility for their decisions. With the choice premium measures, we wanted to capture the degree to which the respondent likes to have control over their decisions. We hypothesized that those that want to avoid responsibility would have Delegation preferences and those that want to have more control over their choice would have Autonomy preferences (H4 and H4'). In Table 1.6, columns 3 and 4, we can see that our results support our hypotheses, although for just one of the statements in each variable, specifically statement 1 in the avoidance of responsibility and statement 1 in the choice premium, and in the latter, it is only marginally significant.

[9]We create a dummy variable that takes a value of 1 for those respondents that agreed or fully agreed to the statement: Some people like to take responsibility. I tend not to be one of them, however, and I like to pass the burden of responsibility on to the state. And another dummy variable that take a value of 1 if respondents answered disagree or fully disagree to the following statement: I have no problem accepting the personal consequences of my decisions.

[10]We create a dummy variable that takes a value of 1 for those respondents that agreed or fully agreed to these statements separately:

- It makes me feel good to be able to make my own decisions, even though they may be wrong.
- I never let other people decide for me, even if they would make the better decision for me.

Result 4: As stated in H4, individuals who avoid responsibility want more regulation for themselves.

Result 4': As stated in H4', individuals who prefer more control over their decisions want less regulation for themselves.

Even though we find that the first statement of avoidance-of-responsibility is significantly correlated with having Delegation preferences, it is unclear whether this correlation is causal and if there are other determinants that would better explain the Delegation preference [11].

1.4.2 How much regulation do I want for others?

When we look at the difference between the preferences of Delegation and Paternalism, we see that a high percentage of respondents choose the same for themselves and for others (1.2). Our hypothesis that people will choose for others as they choose for themselves, (H5) therefore holds.

Result 5: As stated in H5, individuals choose for the general population what they choose for themselves.

We can see sufficient variation both from people that want more regulation for others than for themselves and people that want less regulation for others than for themselves. However, if we look at the number of respondents, as seen in Figure 1.3, we can see that we only have a few dozen that want both less regulation for themselves (value 1 in the x

[11] When we add all other control variables like political affinity, whether they believe that protecting them from harm is the primary task of the government, and whether they believe that people should have the right to harm themselves, among others, we find that the main independent variables remain significantly correlated in the same direction and similar size (#_correct_know_q, perceived eccentricity for Autonomy preferences and paternalism, avoidance of responsibility and bigger size of government for Delegation preferences). Also, how important is financial security to them compared to the majority, whether they have been born in Germany, whether they are married, whether they have children, their income and their level of education (Table 1.15 in the Appendix). It is worthy to note that people with a middle to low income, between 1500 and 2500 euros have Delegation preferences, while those with less than a high school education have Autonomy preferences. It seems that respondents that are sympathetic to parties that propose less intervention from the government, such as FDP, AfD or other non-specified party, are the respondents that also want more autonomy in their decision-making. The respondents that are closer to parties like CDU, Die Linke and Grüne are more likely to be satisfied with the current regulation. Interestingly, respondents with political affinity towards AfD are also the ones that want more intervention for the population as a whole (Table 1.7).

Table 1.6: Delegation Preferences and Autonomy Preferences and other controls

	(1) Delegation	(2) Autonomy	(3) Delegation	(4) Autonomy
perceived_knowledge= 4 or 5	0.0430	0.0776	0.0354	0.0691
	(0.0816)	(0.0863)	(0.0823)	(0.0848)
#_correct_know_q=0	-0.0736	0.124	-0.0714	0.175
	(0.115)	(0.120)	(0.115)	(0.119)
#_correct_know_q=1	-0.106	0.0559	-0.126	0.0596
	(0.0942)	(0.0834)	(0.0978)	(0.0855)
#_correct_know_q=3	-0.0839	0.0176	-0.0982	0.00767
	(0.0607)	(0.0607)	(0.0604)	(0.0614)
#_correct_know_q=4	-0.0616	0.152**	-0.0580	0.158***
	(0.0594)	(0.0597)	(0.0593)	(0.0601)
perceived_eccentricity=3	0.0299	0.150**	0.0259	0.142**
	(0.0624)	(0.0682)	(0.0622)	(0.0683)
Paternalism=5	0.317***	0.00320	0.315***	0.0102
	(0.0737)	(0.0694)	(0.0727)	(0.0696)
trust	0.0296	-0.217***	0.0236	-0.217***
	(0.0566)	(0.0470)	(0.0565)	(0.0480)
size_gov = 4 or 5	0.217***	-0.135***	0.192***	-0.120***
	(0.0496)	(0.0446)	(0.0510)	(0.0461)
avoidance_r1			0.189***	-0.0444
			(0.0713)	(0.0618)
avoidance_r2			-0.0260	0.0716
			(0.0915)	(0.107)
choice_premium1			0.0441	0.114*
			(0.0615)	(0.0647)
choice_premium2			-0.00366	0.0571
			(0.0452)	(0.0466)
Constant	0.301***	0.263***	0.243***	0.153*
	(0.0742)	(0.0698)	(0.0850)	(0.0843)
Gender and Age controls	Yes	Yes	Yes	Yes
Obs	439	439	439	439
R-squared	0.130	0.107	0.147	0.123

Robust Standard errors in parentheses
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Notes: The "Delegation" column gives delegation preferences a "1" if respondents answered that they wanted the State to regulate more or much more on pension regulation, and zero otherwise. The "Autonomy" column gives the right-hand side dummy variable a "1" if respondents answered that they wanted less or much less regulation. perceived_knowledge=4 or 5 is a dummy variable that takes the value of 1 if the respondent believes they are more or much more knowledgeable than the majority. #_correct_know_q is a categorical variable taking values from 0 to 4 depending on the number of financial literacy questions answered correctly. perceived_eccentricity=3 is a dummy variable that takes the value of 1 if the respondent believes they have very different pension preferences than the majority of the population. Paternalism is a dummy variable that takes the value of 1 if the respondent wants more government regulation for the population as a whole. trust is a dummy variable that takes the value of 1 if the respondent trusts the political institutions. size_gov=4 or 5 is a dummy variable that takes the value of 1 if the respondent wants the government to be involved in all aspects of life or almost all aspects of life. avoidance_r1 and avoidance_r2 are two dummy variables that take the value of 1 if the respondent wants to avoid responsibility for decisions. choice_premium1 and choice_premium2 are dummy variables that take the value of 1 if the respondent wants to have control over decisions. The reference group is males with ages between 18 to 29 years.

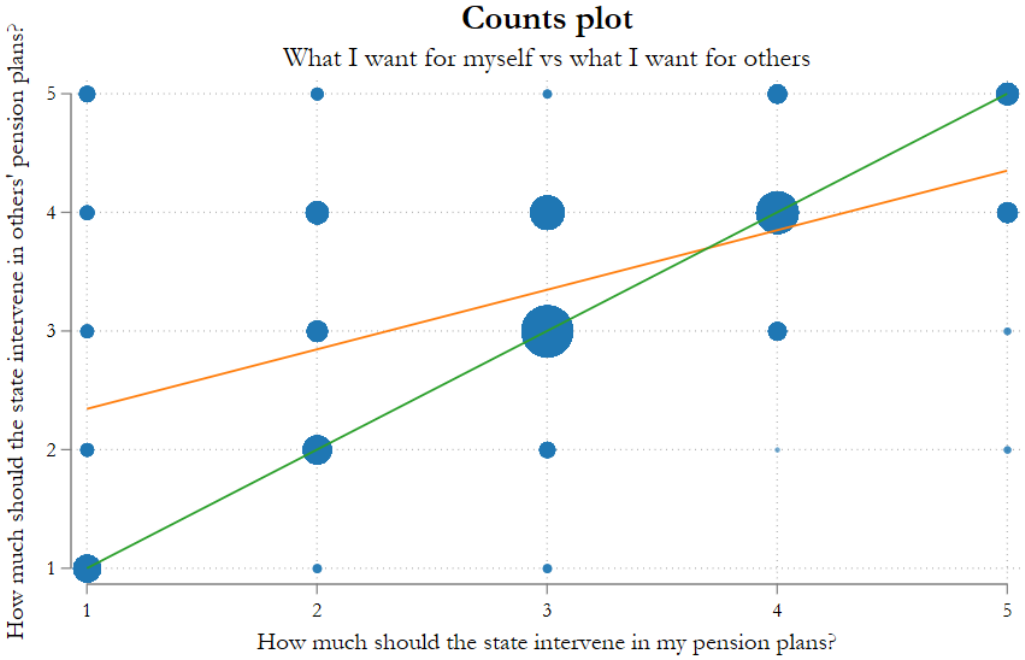

Figure 1.2: Frequency of respondents by the degree of regulation they want for themselves (x-axis) and the degree of regulation they want for others (y-axis)

axis) and more regulation for others (purple bar), which makes it more difficult to find robust results.

Despite the low sample size of respondents that have a different preference for others than what they want for themselves, we can see from the regression in Table 1.7 that those respondents who are more financially literate and want less regulation for themselves are also the ones that significantly want more regulation for others. This finding is the opposite to what Døssing and Lassen (2019) find, in particular, that more competent people are less likely to restrict the decisions of others (if we take knowledge as a proxy of competence). However, we cannot say that those who are more financially literate as a whole want more regulation for others, since those who are more financially literate are the ones that want less regulation for themselves and also want less regulation for others, as almost 80% of those respondents choose for others as they chose for themselves (first blue bar in Figure 1.4)[12]. In Figure 1.4, we want to show that a significant proportion

[12]We can see that in the other categories there is a huge correlation between what they want for themselves and what they want for others, in particular 60% of people that want less regulation for themselves also want less regulation for others. About 70% of respondents that are satisfied with the current regulation for themselves also want the same level of regulation for others. About 40% of

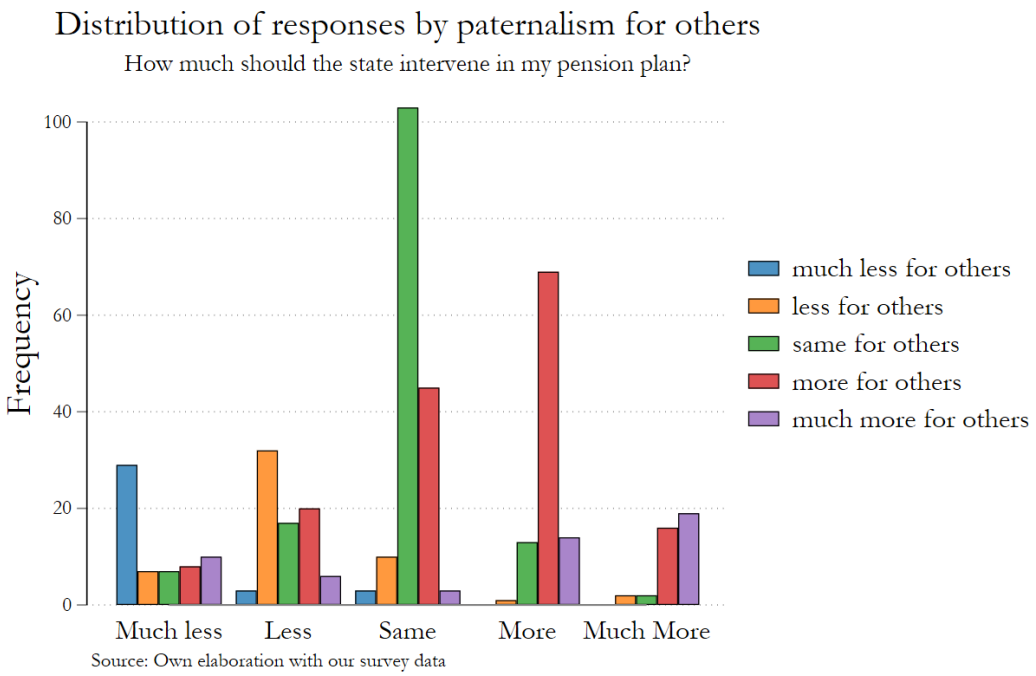

Figure 1.3: Histogram of respondents by the degree of regulation they want for themselves (x-axis) and the degree of regulation they want for others (legend)

of respondents choose for themselves what they choose for others. Specifically, we are calculating for each category of the degree of regulation for others, what is the percentage of respondents that are in the categories of the degree of regulation for themselves, e.g., for the respondents that want much less regulation for others, 80% of respondents want much less regulation for themselves, approximately 10% want less regulation for themselves and another 10% are satisfied with the current regulation for themselves (all represented with the blue bars). Therefore, our H6 does not hold, as the people who are more financially literate are more likely to want less regulation for themselves and under hypothesis 5, they choose for others as they choose for themselves so that, on average, they also want less regulation for others.

In terms of perceived eccentricity, we find a similar pattern: those respondents that perceive themselves as being more different than the majority are also the ones that want less regulation for themselves and therefore also the ones more likely to want for others what they want for themselves. Thus, our hypothesis (H6') does not hold. However, we

respondents that want more regulation for themselves also want more regulation for others and about 38% of respondents that want much more regulation for themselves also want more regulation for others.

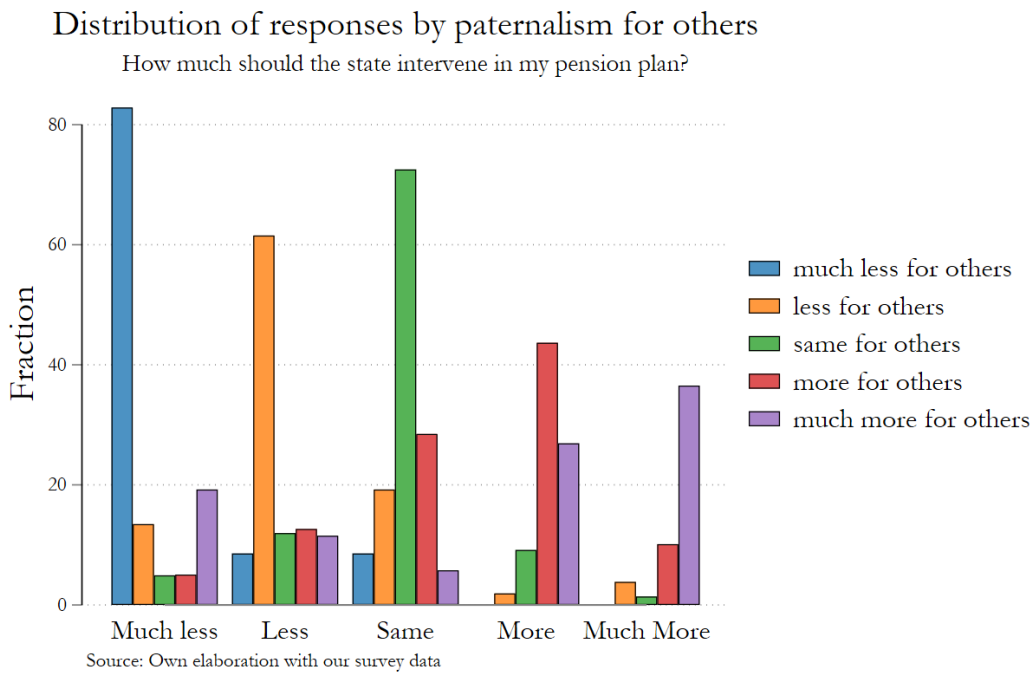

Figure 1.4: Fraction of respondents by the degree of regulation they want for themselves (x-axis) and the degree of regulation they want for others (legend label)

can see in Table 1.7 that those people who perceive themselves as being slightly different from the majority (perceived eccentricity=2) and that have an average level of financial knowledge (3 out of 4 questions correct) want more regulation for others.

Furthermore, we can see that those respondents who are more financially literate (#_correct_know_q=4) and want less regulation for themselves (Delegation=1 or Delegation=2), also want more regulation for others (H7). This finding is similar to that found in Ambuehl et al. (2021), as respondents are paternalistic toward others because they believe others share their same goal or aspiration, in this case have a similar preference for retirement pensions (amount, conditions, etc.).

Result 6: As stated in H7, individuals who are more financially literate and want less regulation for themselves are more likely to want more regulation for others.

We can also see that those respondents who are not very financially literate, but want less regulation for themselves, also want more regulation for others (H7'). This finding is similar to that found in Døssing and Lassen (2019), where they see that those people who are more incompetent restrict the decisions of others much more.

Result 6': As stated in H7', individuals who are less financially literate and want less regulation for themselves are more likely to want more regulation for others.

Nevertheless, there are also respondents who are not very financially literate that want more regulation for themselves, but less for others (H7").

Result 6": As stated in H7", individuals who are less financially literate and want more regulation for themselves are less likely to want more regulation for others.

Table 1.7: Paternalism Preferences

	(1) Paternalism
#_correct_know_q=3	-0.117*
	(0.0695)
Delegation=4	0.130*
	(0.0748)
Delegation=5	0.347**
	(0.176)
#_correct_know_q=1 × Delegation=4	-0.212**
	(0.108)
#_correct_know_q=1 × Delegation=2	0.308*
	(0.165)
#_correct_know_q=4 × Delegation=1	0.240**
	(0.0931)
#_correct_know_q=4 × Delegation=2	0.130**
	(0.0635)
#_correct_know_q=3 × perceived_eccentricity=2	0.194**
	(0.0872)
size_gov=5	0.0880**
	(0.0385)
CDU	0.0768*
	(0.0439)
AfD	0.130*
	(0.0745)
Non-specified party	0.0717*
	(0.0413)
Constant	0.0169
	(0.0758)
Gender and Age controls	Yes
Obs	439
R-squared	0.255

Robust Standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Notes: Paternalism preferences: Preferences measure on whether respondents want the State to regulate more or much more pension regulation for the population as a whole. Delegation is a dummy variable that takes the value 1 if respondents answered that they wanted the State to regulate more or much more pension regulation. higher_perceived_know is a dummy variable that takes the value of 1 if the respondent believes they are more or much more knowledgeable than the majority. #_correct_know_q is a a categorical variable taking values from 0 to 4 depending on the number of financial literacy questions answered correctly. higher_perceived_eccentricity is a dummy variable that takes the value of 1 if the respondent believes they have very different pension preferences than the majority of the population. Paternalism is a dummy variable that takes the value of 1 if the respondent wants more government regulation for the population as a whole. trust is a dummy variable that takes the value of 1 if the respondent trusts the political institutions. The reference group is males with ages between 18 and 29 years.

Therefore, we can divide our results as described before with the following table (Table 1.8). We can see that the bulk of our sample (50%) want more regulation for themselves and for others. While the smallest group are people that want more regulation for themselves, but want less regulation for the population as a whole (1.27%). The second most important group is of those respondents that want less regulation for themselves and for others (30%). The third most important group is of those respondents who want more regulation for others but less for themselves (18.64%). Within this group, we can distinguish between those that have more financial knowledge and those that have less financial knowledge. It is important to note that in this matrix we have not included those respondents who were satisfied with the current level of regulation at the individual and societal level.

Table 1.8: Description of types of respondents in our survey depending on the individual preference of pension regulation and their societal preference on pension regulation

Individual/Societal	**More autonomy for others**	**More state regulation for others**
More autonomy for myself	30 %	18.64 %
More state regulation for myself	1.27 %	50 %

1.5 Discussion

As we have shown, the variables that seem to be correlated with the respondents that want less regulation for themselves and those that want more regulation (Delegation preference) do not coincide. Therefore, this suggests that these two tails of the distribution do not seem to be in the same dimension, in other words, they are not two sides of the same coin, they are describing two distinct variables.

By construction, we have equated less regulation with an Autonomy preference and more regulation with a Delegation preference. This identity need not necessarily hold. We could, for instance, think of a respondent that equates more regulation from the government to less individual restriction, that is, for example, he wants a government law that bans the involvement of the state on pensions (framework regulation-extensive margin-what to regulate). Moreover, there could be another respondent that thinks of more regulation as changing the amount of the pension provided and not necessarily the

restriction of your choice on pensions (public provision regulation-intensive margin-how to regulate). We avoid this problem through the wording of the statement [13] (thus emphasizing the fact that we mean that more intervention means fewer decisions at the individual level). Another concern could be that, as we do not control for the beliefs of respondents on current regulation, they might have the same preferences but their responses might be different as they hold different beliefs. To avoid this problem in future research, a question where respondents have to answer what their beliefs are about the current regulations could solve the problem. One might also consider that respondents have a demand effect to answer differently to the preference when it affects them and when it affects the population as a whole, since the former regulation will also affect them, however in reality, many of the government regulations do not affect certain individuals because they have outside options, in this case, we might think that people who have private pension plans are less concerned about whether a policy is implemented as a whole, but are very concerned if it affects them directly.

An interesting consideration that we were not able to cover was to identify the types of beliefs that are driving the preferences for autonomy and delegation: In particular, whether the respondents that want more regulation have a belief about others' inability to choose the pension that best fits them; whether they think that the pension decisions are too complex or whether they are more concerned with redistribution and concerned about avoiding poverty in retirement; or believe that they have a responsibility toward others and they have the power to establish a standard for others which would make those that are more informed choose a level of protection for those that are not as informed (Dressler and Mugerman (2023)). In fact, in a representative survey of the German

[13] Financial retirement planning requires decisions about how much to set aside for retirement or save under Social Security, when to do so, and other decisions for your retirement. The government intervenes in your decisions here to some extent, but also leaves many decisions up to you. How do you rate this policy?

- The state should take over many more decisions about my retirement planning
- The state should take over a little more decisions about my retirement planning
- I am satisfied with the balance of regulation and freedom of choice
- The state should give me a little more freedom to make decisions
- The state should leave me much more freedom to make decisions

population done in August 2020, Niehues et al. (2021) find that respondents overestimate the at-risk-of-poverty for pensioners at about 48%, when the actual data state that it is around 17%. This overestimation can clearly determine their support for more regulation on pension plans.

There is a wealth of further factors that might be useful and might also contribute to explaining why individuals desire more or less regulation for themselves, or for others, and why they might want different intensities of regulation for themselves and for others. These include any beliefs about others, in particular, their belief about how people insure for the future, why more regulation is needed, the amount of people that are at-risk-of-poverty in retirement, etc. Additionally, one might seek better measures of knowledge to further corroborate that the least informed are not the ones that want more regulation. Furthermore, an actual measure of eccentricity instead of a perception might provide more insight on the relationship with the preference for regulation, since we do not ask them about their actual behavior, like what type of pension plan they have, whether they have a private pension plan, etc. Moreover, one could assess whether people who are in favor of more regulation are the ones that suffer more from present bias or myopic views or not. And finally, one could consider preferences such as risk preferences, inequality aversion or collectivism vs individualism preferences as other factors that could explain the preferences for regulation. All these are promising avenues that could be addressed in future research.

1.6 Conclusion

Through the survey data we collected, we found evidence that supports a number of hypotheses: More informed people want less regulation on pensions. People that perceive themselves as being more unique in their pension preferences want less government regulation on pensions. Interestingly, respondents who are less informed do not want more regulation on pensions and neither the respondents that perceive themselves to be like the general population want more regulation. This led us to the conclusion that the category in which people are content with the amount of pension regulation is a very special category. Put differently, the deviations of preferences from

this middle category are not describing the same measure and that, in fact, we are looking at two different dimensions of policy preferences, on the one hand an Autonomy preference and on the other a Delegation preference.

From the Autonomy preference perspective, the key variables are knowledge, perceived eccentricity, and mistrust of the government, while from the Delegation preference perspective, the key variables are Paternalism preference, avoidance of responsibility, and a preference for a bigger size of government.

The interaction between Autonomy, Delegation, and Paternalism preferences also provides us with interesting results. We can divide them into two big subgroups: identical (same preferences at the individual and societal level) and distinct (different preferences at the individual and societal level). Within the identical subgroup, we find two categories: pure individualists or pure collectivists, and within the distinct group we find both respondents who individually like autonomy and still prefer paternalism with respect to the general population, and respondents who would like to delegate their own decision rights but leave the freedom of choice to the members of the general population. An important driver for who is in which category is financial knowledge. We find that those who are more knowledgeable and want less regulation are the ones that want more regulation for others, while for those who are less knowledgeable, there are two types, those that want less regulation for themselves, but more for others, and those that want more regulation for themselves but less for others.

1.7 Appendix

Table 1.9: Description of categorical variables

VARIABLES	**Categories**
Civil Status	1 = Single
	2 = Married
Income	1 = Less than 1500 euros
	2 = Between 1500-2500 euros
	3 = Between 2500-4000 euros
	4 = Between 4000-5000 euros
	5 = Between 5000-6000 euros
	6 = Between 6000-7000 euros
	7 = More than 7000 euros
Education	1 = No schooling
	2 = Hauptschule o.ä.
	3 = Mittlere Reife
	4 = Abitur o.ä. (High school)
	5 = Hochschul/Fachhochschulabschluss o.ä. (University)

Table 1.10: OLS regression with entire distribution of the dependent variable

	Delegation preference
perceived_knowledge=1	-0.0300
	(0.2415)
perceived_knowledge=2	0.0070
	(0.1344)
perceived_knowledge=4	-0.1483
	(0.1248)
perceived_knowledge=5	0.0399
	(0.2060)
#_correct_know_q=0	-0.3038
	(0.2801)
#_correct_know_q=1	-0.0646
	(0.1896)
#_correct_know_q=3	-0.1675
	(0.1311)
#_correct_know_q=4	-0.2484*
	(0.1245)
perceived_eccentricity=2	0.0046
	(0.1016)
perceived_eccentricity=3	0.2080
	(0.1810)
Paternalism_preference=1	-1.6647***
	(0.1470)
Paternalism_preference=2	-0.6630***
	(0.1334)
Paternalism_preference=4	0.5253***
	(0.1072)
Paternalism_preference=5	0.6063**
	(0.2226)
Female	-0.0410
	(0.0960)
Age_btw_30_39	-0.1663
	(0.1541)
Age_btw_40_49	-0.1192
	(0.1751)
Age_btw_50_59	-0.2016
	(0.1607)
Age_more_than_60	-0.0947
	(0.1418)
Constant	3.1834***
	(0.1572)
R-Squared	0.3312
N	439

Notes: Ordinary least squares regression with entire distribution of the dependent variable, Delegation preference that takes the value of 1 to 5. 1 means that respondents want much less intervention and 5 are those that want much more intervention from the government on pensions. Perceived knowledge is a categorical variable that takes the value of 1 if they believe they are much less informed than the majority and the value of 5 if they believe they are much more informed than the majority. #_correct_know_q is a categorical variable that takes values from 0 to 4 depending on the number of financial and pension questions answered correctly by the respondent. Perceived eccentricity is a categorical variable that takes the value of 1 if the respondent believes they have similar pension preferences to the majority of the population, 2 if the respondent believes they have slightly different pension preferences from the majority of the population, and 3 if they believe they have very different pension preferences from the majority of the population.

Table 1.11: Ordered probit with entire distribution of the dependent variable

	Delegation preference
perceived_knowledge=1	-0.0446
	(0.2773)
perceived_knowledge=2	0.0113
	(0.1500)
perceived_knowledge=4	-0.1676
	(0.1409)
perceived_knowledge=5	0.0607
	(0.2450)
#_correct_know_q=0	-0.3333
	(0.3037)
#_correct_know_q=1	-0.0592
	(0.2067)
#_correct_know_q=3	-0.1854
	(0.1469)
#_correct_know_q=4	-0.2872*
	(0.1380)
perceived_eccentricity=2	0.0221
	(0.1137)
perceived_eccentricity=3	0.2498
	(0.2157)
Paternalism_preference=1	-2.2317***
	(0.3013)
Paternalism_preference=2	-0.6885***
	(0.1528)
Paternalism_preference=4	0.5920***
	(0.1219)
Paternalism_preference=5	0.7290**
	(0.2539)
Female	-0.0565
	(0.1077)
Age_btw_30_39	-0.1977
	(0.1699)
Age_btw_40_49	-0.1291
	(0.1959)
Age_btw_50_59	-0.2303
	(0.1793)
Age_more_than_60	-0.1015
	(0.1586)
Pseudo R-Squared	0.1398
N	439

Notes: Ordered probit regression. This type of regression allows for the ranges between categories to be different as they only express a rank and not cardinality. Perceived knowledge is a categorical variable that takes the value of 1 if they believe they are much less informed than the majority and 5 if they believe they are much more informed than the majority. #_correct_knowledge is a categorical variable that takes values from 0 to 4 depending on the number of financial and pension questions answered correctly by the respondent. Perceived eccentricity is a categorical variable that takes the value of 1 if the respondent believes they have a similar pension preferences to the majority of the population, 2 if the respondent believes they have slightly different pension preferences from the majority of the population, and 3 if they believe they have very different pension preferences from the majority of the population.

Table 1.12: Multinomial logistic regression

	1v3	2v3	4v3	5v3
perceived_knowledge=1	-0.1229	0.0263	-0.1335	-0.3470
	(0.7615)	(0.7402)	(0.7322)	(0.7782)
perceived_knowledge=2	0.5158	0.2599	0.1727	0.5017
	(0.6604)	(0.4811)	(0.4321)	(0.7419)
perceived_knowledge=4	0.5682	0.2096	-0.1225	0.0225
	(0.4993)	(0.3924)	(0.4095)	(0.6151)
perceived_knowledge=5	1.1380	-0.4691	0.4775	0.8091
	(0.8410)	(0.8804)	(0.5831)	(0.7816)
#_correct_know_q=0	1.7645	1.3161	1.0612	1.1177
	(0.9461)	(0.7656)	(0.9225)	(0.9829)
#_correct_know_q=1	-0.2497	0.5060	1.0986	-0.0747
	(1.2696)	(0.6152)	(0.7030)	(1.3295)
#_correct_know_q=2	0.1136	0.5703	1.1981**	0.7514
	(0.6329)	(0.5013)	(0.4517)	(0.6208)
#_correct_know_q=4	0.6312	0.8879*	1.1986**	-0.1800
	(0.4802)	(0.4073)	(0.3951)	(0.5546)
perceived_eccentricity=1	0.0386	-0.4247	-0.4587	0.0243
	(0.4897)	(0.3763)	(0.3584)	(0.5461)
perceived_eccentricity=3	0.3824	0.5607	0.1770	1.6631**
	(0.6339)	(0.5538)	(0.5742)	(0.6382)
Paternalism_preference=1	5.0475***	1.7487	-12.4454***	-11.5005***
	(0.8179)	(0.9681)	(0.7415)	(1.1296)
Paternalism_preference=2	2.2448***	2.8637***	-0.3230	2.3429*
	(0.6370)	(0.4795)	(1.1329)	(1.1259)
Paternalism_preference=4	1.0453	1.0952**	2.7601***	3.0367***
	(0.5949)	(0.3955)	(0.3641)	(0.8049)
Paternalism_preference=5	4.1766***	2.6304***	3.8422***	6.1451***
	(0.7822)	(0.7665)	(0.7339)	(0.9713)
Female	0.3804	-0.0955	0.3021	-0.1917
	(0.4171)	(0.3422)	(0.3453)	(0.4816)
Age_btw_30_39	0.3583	-0.6678	-0.7790	-1.1976
	(0.8703)	(0.5731)	(0.5423)	(0.7669)
Age_btw_40_49	1.3812	-0.0754	-0.7664	0.6052
	(0.8292)	(0.5599)	(0.6048)	(0.7212)
Age_btw_50_59	1.9533*	0.1502	0.1137	0.5322
	(0.7956)	(0.5617)	(0.5023)	(0.7433)
Age_more_than_60	0.6868	-0.3239	-0.0929	-0.4895
	(0.8006)	(0.5201)	(0.4953)	(0.7547)
Constant	-4.5972***	-2.1155**	-2.8618***	-4.4838***
	(0.9500)	(0.6688)	(0.6785)	(1.1325)
Pseudo R-Squared	0.2981	0.2981	0.2981	0.2981
N	439	439	439	439

Notes: Multinomial regression for each category of the Delegation preference, from 1 to 5, with base reference category 3 (which represents individuals that prefer the status quo). The coefficients are the odds ratios between category x and the base category 3. Perceived knowledge is a categorical variable that takes the value of 1 if they believe they are much less informed than the majority and the value of 5 if they believe they are much more informed than the majority. #_correct_know_q is a categorical variable that takes values from 0 to 4 depending on the number of financial and pension questions answered correctly by the respondent. Perceived eccentricity is a categorical variable that takes the value of 1 if the respondent believes they have a similar pension preferences to the majority of the population, 2 if the respondent believes they have slightly different pension preferences from the majority of the population, and 3 if they believe they have very different pension preferences from the majority of the population.

Table 1.13: Logistic regression for each category of the dependent variable

	Autonomy =1	Autonomy =2	Status quo=3	Delegation=4	Delegation=5
perceived_knowledge=1	-0.00407	0.0102	0.00116	0.0132	-0.0206
	(0.0563)	(0.0812)	(0.0851)	(0.103)	(0.0620)
perceived_knowledge=2	0.0199	-0.000174	-0.0467	0.00744	0.0195
	(0.0402)	(0.0512)	(0.0617)	(0.0515)	(0.0393)
perceived_knowledge=4	0.0393	0.0193	-0.0156	-0.0356	-0.00737
	(0.0375)	(0.0453)	(0.0514)	(0.0470)	(0.0327)
perceived_knowledge=5	0.0849	-0.0995	-0.0630	0.0452	0.0324
	(0.0623)	(0.0647)	(0.0722)	(0.0718)	(0.0566)
#_correct_know_q=0	0.0933	0.0551	-0.0778	-0.0789	0.00838
	(0.0830)	(0.109)	(0.0943)	(0.0990)	(0.0682)
#_correct_know_q=1	-0.0124	0.0150	0.0324	0.00453	-0.0395
	(0.0562)	(0.0644)	(0.0931)	(0.0816)	(0.0496)
#_correct_know_q=3	0.0182	-0.0127	0.125**	-0.118**	-0.0132
	(0.0357)	(0.0481)	(0.0593)	(0.0535)	(0.0404)
#_correct_know_q=4	0.0344	0.0405	-0.0153	0.0199	-0.0795**
	(0.0313)	(0.0510)	(0.0579)	(0.0540)	(0.0384)
perceived_eccentricity=2	-0.0101	0.0368	-0.0669	0.0594	-0.0192
	(0.0291)	(0.0373)	(0.0490)	(0.0441)	(0.0280)
perceived_eccentricity=3	-0.0225	0.0520	-0.130*	-0.0144	0.115**
	(0.0467)	(0.0642)	(0.0685)	(0.0600)	(0.0555)
Paternalism_preference=1	0.762***	-0.0360	-0.602***	-0.0709*	-0.0530*
	(0.0703)	(0.0671)	(0.0735)	(0.0367)	(0.0321)
Paternalism_preference=2	0.0748	0.478***	-0.489***	-0.0916**	0.0282
	(0.0487)	(0.0770)	(0.0702)	(0.0385)	(0.0310)
Paternalism_preference=4	-0.00220	0.00395	-0.441***	0.353***	0.0857***
	(0.0283)	(0.0400)	(0.0525)	(0.0461)	(0.0300)
Paternalism_preference=5	0.144**	-0.0151	-0.663***	0.189***	0.345***
	(0.0579)	(0.0562)	(0.0536)	(0.0701)	(0.0679)
Female	0.0292	-0.0250	-0.0224	0.0438	-0.0257
	(0.0290)	(0.0366)	(0.0434)	(0.0392)	(0.0257)
Age_btw_30_39	0.0404	-0.0458	0.102	-0.0610	-0.0351
	(0.0430)	(0.0607)	(0.0733)	(0.0693)	(0.0404)
Age_btw_40_49	0.0799*	-0.0273	0.00608	-0.131**	0.0722
	(0.0475)	(0.0629)	(0.0720)	(0.0655)	(0.0516)
Age_btw_50_59	0.115**	-0.0336	-0.0573	-0.0414	0.0177
	(0.0453)	(0.0623)	(0.0669)	(0.0649)	(0.0476)
Age_more_than_60	0.0406	-0.0396	0.0289	-0.00653	-0.0233
	(0.0382)	(0.0550)	(0.0692)	(0.0639)	(0.0397)
Constant	-0.0468	0.129**	0.754***	0.108	0.0553
	(0.0408)	(0.0640)	(0.0763)	(0.0722)	(0.0445)
Obs	439	439	439	439	439
R-squared	0.386	0.191	0.318	0.222	0.202

Robust Standard errors in parentheses
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Notes: Logit regressions for each category of the Delegation preference variable. First column shows the regression of a dummy variable when the Delegation preference takes the value of 1, those respondents that want much less intervention from the government on pensions, we refer to this category as part of the Autonomy preference. Second column corresponds to a dummy for when the Delegation preference takes the value of 2—those respondents that want less intervention from the government—we include these respondents in the Autonomy preference. The third column corresponds to those respondents that are satisfied with the current regulation (Delegation preference=3). The fourth column corresponds to those respondents that want more intervention from the government (Delegation preference=4). The fifth column corresponds to those respondents that want much more intervention from the government. Perceived knowledge is a categorical variable that takes the value of 1 if they believe they are much less informed than the majority and the value of 5 if they believe they are much more informed than the majority. #_correct_know_q is a categorical variable that takes values from 0 to 4 depending on the number of financial and pension questions answered correctly by the respondent. Perceived eccentricity is a categorical variable that takes the value of 1 if the respondent believes they have similar pension preferences to the majority of the population, 2 if the respondent believes they have slightly different pension preferences from the majority of the population, and 3 if they believe they have very different pension preferences from the majority of the population.

Table 1.14: LPM regression for each subset of dependent variable

	(1)	(2)	(3)
	Less regulation=1 or 2	Status quo=3	More regulation=4 or 5
perceived_knowledge=1	0.142	-0.128	0.144
	(0.150)	(0.105)	(0.139)
perceived_knowledge=2	0.0834	-0.0810	0.0820
	(0.0871)	(0.0679)	(0.0835)
perceived_knowledge=4	0.0803	-0.0368	-0.00940
	(0.0731)	(0.0602)	(0.0770)
perceived_knowledge=5	0.134	-0.135	0.155
	(0.123)	(0.0822)	(0.124)
#_correct_know_q=0	0.120	-0.0120	-0.0502
	(0.151)	(0.122)	(0.161)
#_correct_know_q=1	0.0247	0.0290	-0.0880
	(0.123)	(0.103)	(0.115)
#_correct_know_q=3	-0.0173	0.0292	-0.0301
	(0.0799)	(0.0676)	(0.0812)
#_correct_know_q=4	0.182**	-0.111*	0.0584
	(0.0857)	(0.0650)	(0.0814)
perceived_eccentricity=2	0.162**	-0.168***	0.168***
	(0.0632)	(0.0550)	(0.0634)
perceived_eccentricity=3	0.393***	-0.322***	0.313***
	(0.0888)	(0.0691)	(0.107)
Female	0.0357	-0.0246	0.0265
	(0.0586)	(0.0481)	(0.0611)
Age_btw_30_39	-0.0137	0.0894	-0.148
	(0.105)	(0.0806)	(0.0990)
Age_btw_40_49	0.0710	0.0246	-0.0967
	(0.107)	(0.0815)	(0.105)
Age_btw_50_59	0.146	-0.0349	-0.0234
	(0.103)	(0.0751)	(0.0978)
Age_more_than_60	0.0538	0.0197	-0.0528
	(0.0959)	(0.0723)	(0.0934)
Constant	0.127	0.577***	0.343***
	(0.107)	(0.0867)	(0.107)
Obs	303	439	300
R-squared	0.136	0.0882	0.0748

Robust Standard errors in parentheses
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Notes: LPM regressions for each subset of the Delegation preference variable. First column shows the regression of a dummy variable when the Delegation preference takes the value of 1 or 2, those respondents that want much less or less intervention from the government on pensions. We refer to this category as part of the Autonomy preference and we exclude respondents that want more regulation. The second column corresponds to those respondents that are satisfied with the current regulation (Delegation preference=3) compared to those that want either less or more regulation in the intercept. The third column corresponds to those respondents that want more or much intervention from the government (Delegation preference=4 or 5) excluding those that want less regulation. Perceived knowledge is a categorical variable that takes the value of 1 if they believe they are much less informed than the majority and the value of 5 if they believe they are much more informed than the majority. #_correct_know_q is a categorical variable that takes values from 0 to 4 depending on the number of financial and pension questions answered correctly by the respondent. Perceived eccentricity is a categorical variable that takes the value of 1 if the respondent believes they have similar pension preferences to the majority of the population, 2 if the respondent believes they have slightly different pension preferences from the majority of the population, and 3 if they believe they have very different pension preferences from the majority of the population.

Table 1.15: Delegation Preferences and Autonomy Preferences on Pensions - All controls

	(1) Delegation	(2) Autonomy
perceived_knowledge=4 or 5	0.103	0.0194
	(0.0822)	(0.0850)
#_correct_know_q=0	-0.114	0.179
	(0.138)	(0.135)
#_correct_know_q=1	-0.150	0.0476
	(0.102)	(0.0815)
#_correct_know_q=3	-0.107*	0.00679
	(0.0603)	(0.0625)
#_correct_know_q=4	-0.0291	0.136**
	(0.0598)	(0.0638)
perceived_eccentricity=3	0.000920	0.122*
	(0.0645)	(0.0665)
Paternalism=5	0.288***	-0.000570
	(0.0732)	(0.0678)
avoidance_r1	0.188**	-0.0435
	(0.0729)	(0.0623)
avoidance_r2	-0.0519	0.0560
	(0.0941)	(0.105)
choice_premium1	0.0844	0.0573
	(0.0638)	(0.0689)
choice_premium2	-0.00239	0.0563
	(0.0456)	(0.0462)
trust	0.0655	-0.185***
	(0.0612)	(0.0529)
size_gov=4 or 5	0.145***	-0.0855*
	(0.0515)	(0.0484)
pat_protect	0.0942**	-0.0272
	(0.0434)	(0.0455)
right_harm	-0.0565	0.0929*
	(0.0475)	(0.0480)
Control_Income_less_1500	0.131	0.0220
	(0.0876)	(0.0852)
Control_Income_btw_1500_2500	0.155**	-0.0677
	(0.0717)	(0.0737)
Control_Income_btw_2500_4000	0.0753	-0.0522
	(0.0583)	(0.0616)
Less_than_HS	-0.206	0.480***
	(0.126)	(0.125)
University	0.0148	-0.00862
	(0.0465)	(0.0519)
job_banking_insurance	-0.0472	0.185*
	(0.0850)	(0.0942)
pensioner	-0.0726	0.0596
	(0.0657)	(0.0661)
rural	-0.00787	-0.0232
	(0.0455)	(0.0471)
born in Germany	-0.145	0.0345
	(0.114)	(0.108)
married	0.0194	0.0241
	(0.0518)	(0.0504)
Children in Household	0.0445	-0.00226
	(0.0344)	(0.0330)
avoid_view_solutions	-0.0149	0.0864*
	(0.0506)	(0.0516)
CDU	0.0194	0.00100
	(0.0750)	(0.0693)
Grüne	-0.00271	-0.0292
	(0.0717)	(0.0680)
FDP	-0.175**	0.211**
	(0.0872)	(0.0932)
Die Linke	0.106	0.0797
	(0.101)	(0.0983)
AfD	-0.0148	0.190*
	(0.0952)	(0.101)
Non-specified	-0.0214	0.149**
	(0.0700)	(0.0700)
Constant	0.460	-0.0654
	(0.320)	(0.225)
Gender and Age controls	Yes	Yes
Obs	439	439
R-squared	0.198	0.198

Robust Standard errors in parentheses
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Notes: The two columns represent the estimations for the same regressors, but for the two different ways of breaking up delegation preferences into dummies. The "Delegation" column gives delegation preferences a "1" if respondents answered that they wanted the State to regulate more or much more on pension regulation, and zero otherwise. The "Autonomy" column gives the right-hand side dummy variable a "1" if respondents answered that they wanted less or much less regulation. Hence, the two estimations differ with respect to whether the neutral answer is collapsed with the paternalism preferences or with the autonomy preferences. The reference group is males aged between 18 and 29 years. perceived_knowledge=4 or 5 is a dummy variable that takes the value of 1 if the respondent believes they are more or much more knowledgeable than the majority. #_correct_know_q is a categorical variable taking values from 0 to 4 depending on the number of financial literacy questions answered correctly. perceived_eccentricity is a dummy variable that takes the value of 1 if the respondent believes they have very different pension preferences than the majority of the population. Paternalism is a dummy variable that takes the value of 1 if the respondent wants more government regulation for the population as a whole. In this regression we include all the controls that were asked in the survey, such as whether they worked in banking and insurance, whether they were married, whether they had children in the household, party they had affinity with, income, education, among others.

Chapter 2

Pension policy preferences: Beliefs about others

2.1 Introduction

The sustainability of pensions has been a topic heavily researched in economics. Many factors have been discussed, from increasing the retirement age, decreasing the pension covered, introducing a mix coverage by public and private institutions or making pensions less dependent on the present contributions and creating a fund per individual which is invested in the capital markets and a return is ensured (Grech (2018), Yu et al. (2018), Bazzana (2020)). The low fertility rates in Western countries makes the sustainability of the current systems in the West difficult. The inability of governments to provide sufficient funds might be a major factor why there is an increasing share of people that want the government to regulate less on the field of pensions. In Sainz Villalba and Konrad (2024), they find that almost 30% of respondents in Germany want less government regulation on pensions, 40% are satisfied with the current regulation and 30% want more regulation.

Following on this paper, we want to see what factors determine the preference for government regulation for themselves and for the population as a whole. In Konrad (2024), the author states that there are two factors that determine the preference for regulation: knowledge and eccentricity. In particular, the more knowledgeable the person is the less regulation they want. Similarly, people that perceive themselves to have more eccentric preferences want also less regulation as they feel that a one-size-fits-all regulation will not be suitable for their needs. Empirically, in Sainz Villalba and Konrad (2024) these hypothesis were confirmed. However, the question of what factors determine the preference for more regulation still remain, as

those that want more regulation are not the ones that are less knowledgeable or perceive themselves to be less eccentric.

Other papers have looked at the impact of giving information to change the pension policy preferences. Schuetz et al. (2023) look at how providing information on the demographic change increases support policy pension reform. They use 14 knowledge questions to measure the literacy on the pension system of respondents, we will use these questions in our survey experiment, as well as four additional ones used in Sainz Villalba and Konrad (2024).

In this paper, we conduct a survey experiment, where we present individuals with information about themselves or about others to see whether there is a change in the preference for regulation for themselves and a change in the preference for regulation for the population as a whole. We divide respondents into three groups: a Control Group, a Info-own Group and a Info-others Group. In the Control Group, we ask them some knowledge questions, what their beliefs are regarding the pension coverage by income bracket, what they think is the at-risk-of-poverty in retirement and for the population as a whole. Therefore, in this group we would capture the saliency effect of the topic of pensions. In the Info-own Group, we ask the same questions and we provide them the actual information on their income bracket, the number of correct knowledge questions they answered and the pension coverage that was ensured by the public statutory pension system in Germany in 2023 (OECD (2023)). For the Info-others group we ask the same questions and provided information on others, specifically, the pension coverage in the others' income group, the at-risk-of-poverty in retirement (Statistiches Bundesamt (2024)), the level of knowledge of respondents in the low income group (we subdivided it into two groups, where for the first we presented them with information that suggested the knowledge of the low income group was low and for the other group the suggested knowledge of the low income group was high).

Our main research question was whether the preference for government regulation in pension policies diminishes when given information about themselves or about others. The change in the preference for regulation depends on the prior belief that respondents hold in all of these factors. Therefore, we hypothesized that if the respondents

overestimated the coverage and the at-risk-of-poverty in retirement, the preference for government regulation for the population as a whole would decrease. If respondents overestimated their own level of knowledge or others' level of knowledge, they would increase the preference for regulation for themselves and for others.

We find that the information provision has a very low effect. In particular, only respondents in the Info-others group seem to be affected by the information given about the pension coverage for the low income group. The respondents that overestimate this coverage are more likely to want less regulation for themselves and for others. As in Sainz Villalba and Konrad (2024), we find that people that are more knowledgeable want less regulation and are also the ones that when given information about themselves or others are more likely to want more regulation for the population as a whole.

This paper is organized as follows, in section 2 we explain the data used and the design, in section 3 we show the results, in section 4 we discuss the findings and the limitations and in section 5 we conclude.

2.2 Data and Design

We conducted the survey experiment in July 2024 with a representative sample of the German Population, collecting data for 2130 respondents. The sample is representative with respect to sex, age, income and state of residence. In Table 2.1, we can see the descriptive statistics of our sample, the mean respondent is 48 years old, unmarried, living with another person, without children, with an income between 2500 euros and 4000 and with a high school education. Only 15% of the sample has parents in need of care or dependent and a 6% of the sample has their parents living with them.

Table 2.1: Summary statistics of Demographic characteristics

VARIABLES	Mean	Sd	Min	Max
Female	0.497	0.500	0	1
Age	48.32	15.85	18	88
Income	3.303	1.719	1	7
Education	3.733	1.059	1	5
Civil Status	1.409	0.492	1	2
Adults in household	1.944	1.485	0	51
Children in household	0.438	0.820	0	5
Dependent parents	0.158	0.365	0	1
Parents in household	0.0638	0.245	0	1

Notes: Female is a dummy variable that takes the value of 1 if the respondent is a woman. Civil Status is a categorical variable that takes the value of 1 if the respondent is single and 2 if the respondent is married. Income is a categorical variable that takes values from 1 to 7, where 1 means incomes less than 1500€ per month, 2 means income between 1500 to 2500€, 3 means income between 2500 and 4000€, 4 means income between 4000-5000€, 5 means income between 5000 and 6000€, 6 means income between 6000 and 7000€, and 7 means more than 7000€. Education is a categorical variable that takes values from 1 to 5, where 1 corresponds to No schooling, 2 corresponds to Hauptschule o.ä, 3 corresponds to Mittlere Reife, 4 corresponds to Abitur o.ä (High School), and 5 corresponds to Hochschul/Fachhochschulabschluss o.ä (University).

We can see that our sample is not significantly different from the German Population with respect to sex, age, income and state of residence, so that it is indeed representative (Table 2.2).

Table 2.2: Representativeness of our sample

VARIABLES	Sample Mean	Population Mean
Female	0.497	0.50
Age_btw_18_29	0.166	0.18
Age_btw_30_39	0.177	0.17
Age_btw_40_49	0.166	0.16
Age_btw_50_59	0.207	0.21
Age_more_than_60	0.258	0.28
Income_less_1500	0.134	0.13
Income_btw_1500_2500	0.215	0.21
Income_btw_2500_4000	0.299	0.31
Income_more_than_4000	0.352	0.35
Baden_Württemberg	0.134	0.13
Bayern	0.165	0.16
Berlin	0.0413	0.04
Brandenburg	0.0310	0.03
Bremen	0.0103	0.01
Hamburg	0.0207	0.02
Hessen	0.0723	0.07
Mecklenburg_Vorpommern	0.0207	0.02
Niedersachsen	0.103	0.10
Nordrhein_Westfalen	0.194	0.22
Rheinland_Pfalz	0.0516	0.05
Saarland	0.0103	0.01
Sachsen	0.0516	0.05
Sachsen_Anhalt	0.0207	0.02
Schleswig_Holstein	0.0413	0.04
Thüringen	0.0310	0.03

To conduct the survey experiment we programmed it in Qualtrics (Qualtrics (2024)) and was distributed by the company Bilendi&Respondi [1]. We have two main dependent variables. The first one is the preference for government regulation on pension in the decision-making of the respondent and takes the values from 0%, which corresponds to not wanting any type of intervention by government and 100% which corresponds to wanting complete intervention from the government. The second dependent variable is the preference for government regulation on pension for the population as a whole and it takes the same values as the previous variable from 0% to 100%.

[1] Ethics Committee approval in the University of Munich with registration title Project Project 2024-09 "Pension policy preferences: Beliefs about others"

In this survey experiment, we randomly distribute respondents into three groups: Control, Info-own and Info-others. In the Control Group, we ask respondents 18 knowledge questions regarding pensions and financial literacy, we elicit their beliefs on what is the amount of pensions as a percentage of income is covered by the government in each income bracket (Low, Average, High). We also ask them about the level of knowledge that they believe the people from each income bracket has and what they believe their level of knowledge is represented by their belief of the number of knowledge questions that they answered correctly. In addition, we elicit their beliefs of the at-risk-poverty rate in retirement and the at-risk-poverty rate for the population as a whole. We also ask them about their trust in government, whether they believe inequality is a serious issue, what they think the wealth of individuals mainly comes from, either advantages or hard work. After these questions, we ask them about their preference for regulation for themselves and their preference for regulation for the population as a whole. Then they answer some demographic questions and other controls.

In the group of Info-own, we ask the same questions and elicit the beliefs, but as an information treatment we provide them with the actual information that affects them, in particular, we update them in their income bracket, the number of knowledge questions they answered correctly and the pension coverage in retirement if they would have retired in 2023 in their income bracket.

In the Info-Others group, we ask the same questions, but as an information treatment we only provide them with information about others, that is, if they are in the average income bracket, we provide information about the pension coverage by the government in 2023 for low and high income bracket, and viceversa, the level of knowledge of 2 out of 3 respondents in the low income bracket (either high-14 out of 18 questions or low-6 out of 18 questions), the actual at-risk-poverty rate in retirement and the correct answer of whether there is redistribution between income groups on the pension system. In Diagram 4.1, we can see the summary of each treatment group.

Our hypotheses were dependent on the difference between the belief and the actual information, e.g.: if a respondent believes that the at-risk-poverty in retirement is 43%,

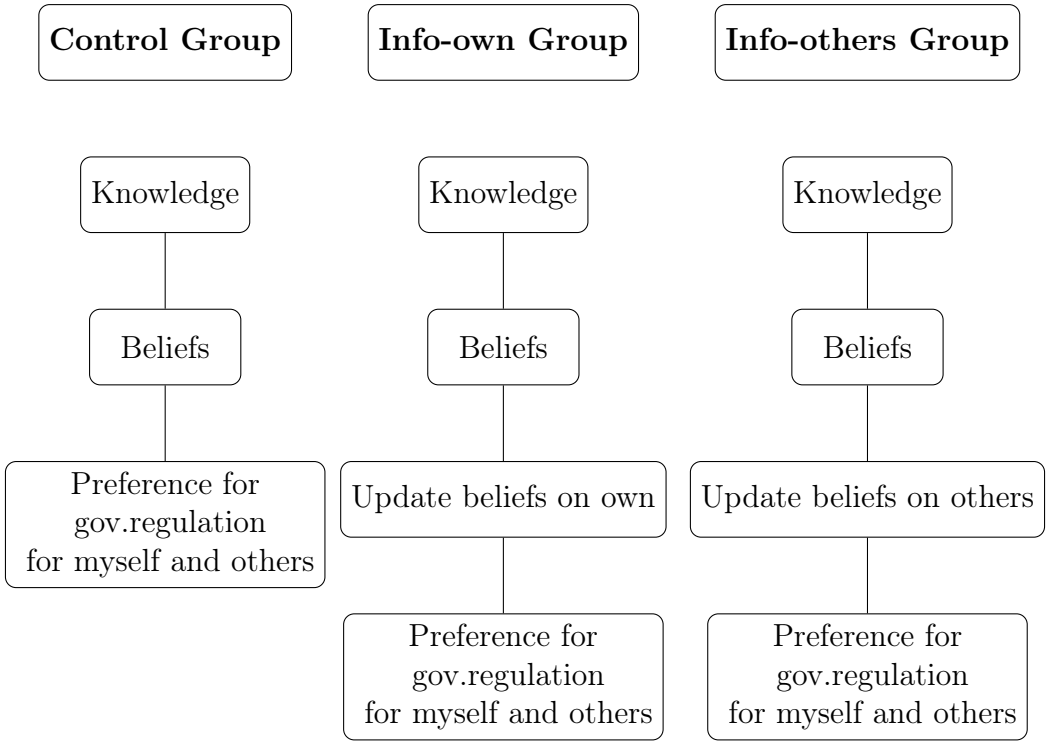

Figure 2.1: Diagram of Treatment groups

when in fact it is 18.3, we would expect that when knowing the actual value, the respondent would have a smaller preference for regulation for the population as a whole compared to a respondent that was not given that information in the Control group. So that when respondents were overestimating the pension coverage for their own income bracket or for others, the at-risk-poverty in retirement, they would decrease the preference for government regulation for the population as a whole and the preference for government regulation for themselves and increase it otherwise. In contrast, if respondents overestimated their own level of knowledge or the level of knowledge of others, they would increase their preference for government regulation on their own pension decisions and decrease it if they underestimated their own level of knowledge and similarly for the preference for government regulation for the population as a whole.

In Table 2.3, we can see that the treatment groups are not statistically different from each other with respect to the main observable characteristics, so therefore the randomization was successful.

Table 2.3: Comparison of Demographic Characteristics Across Treatment Groups

Characteristic	Mean-Control	Mean-Info-Own	Mean-Info-Others	C vs I-own	C vs I-others
age	47.60	48.35	49.07	ns	ns
female	0.51	0.49	0.49	ns	ns
education	3.78	3.69	3.72	ns	ns
income	3.30	3.29	3.33	ns	ns

Notes: T-tests comparing the differences in demographic characteristics between the Treatment Groups and the Control Group.

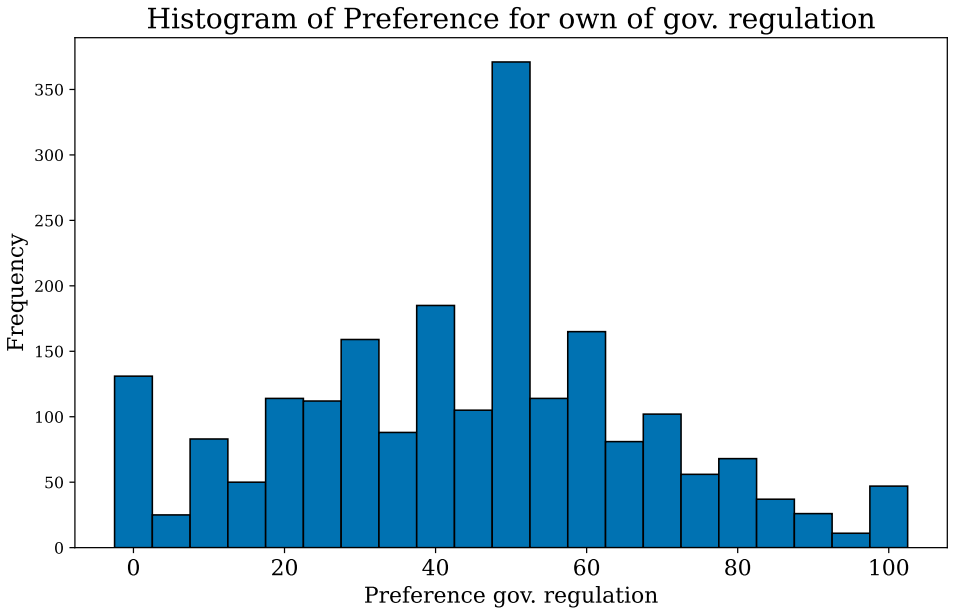

Figure 2.2: Histogram of Preference of gov. regulation for own respondent

By looking at the histograms of our two main dependent variables, Figure 2.2 and Figure 2.3, we can observe that both for the preference of government regulation for own and the preference of government regulation for the population as a whole, respondents tend to indicate a 50% preference, stating that they would prefer the government to intervene in half the decisions of pension regulation.

When we look at the preference for government regulation by age and gender in Figure 2.4 and Figure 2.5, we can see that the preference for regulation seems to decrease by age and that the preference for government regulation for myself is lower than the preference for government regulation for the population as a whole. There is no significant difference across gender, men and women state similar preferences.

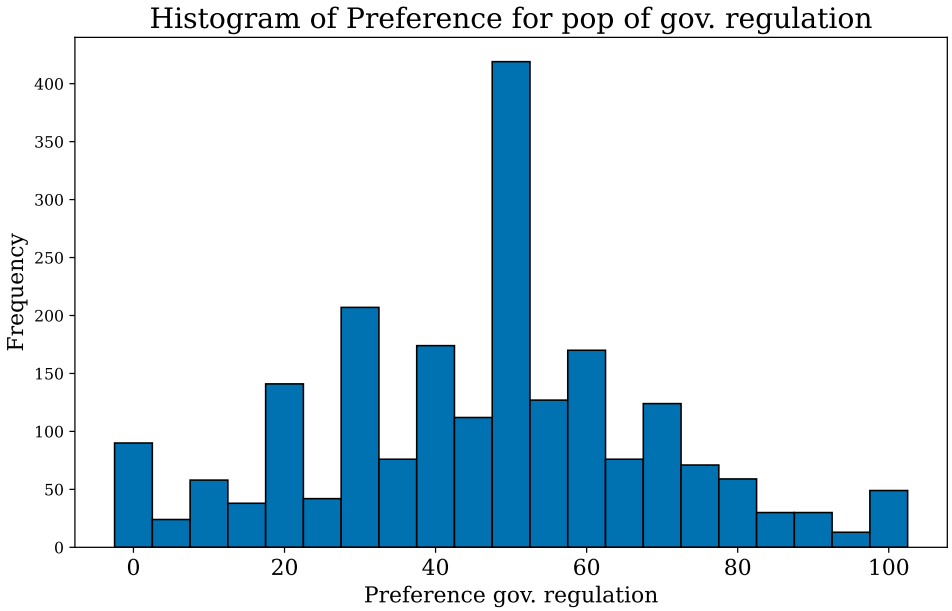

Figure 2.3: Histogram of Preference of gov. regulation for population

Figure 2.4: Pref. of gov. regulation for own by Age and Gender

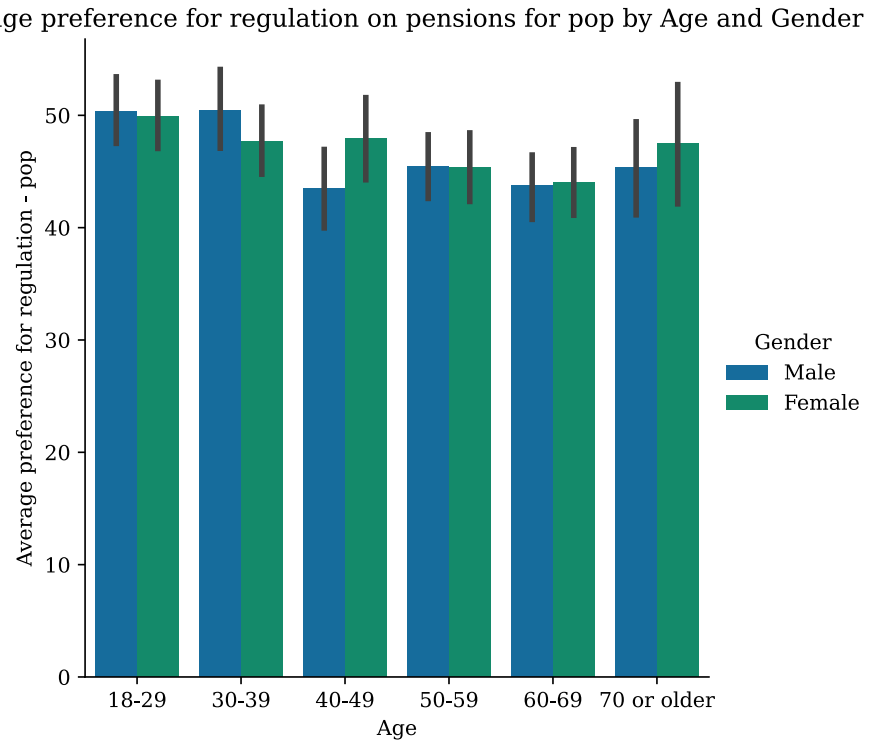

Figure 2.5: Pref. of gov. regulation for population by Age and Gender

2.3 Main Results

When we look at the average of preference for regulation for themselves and the treatment groups in Figure 2.6, we do not find any significant difference between them. We unfortunately, also do not find any significant difference between groups when looking at the preference for government regulation for the population as a whole (Figure 2.7).

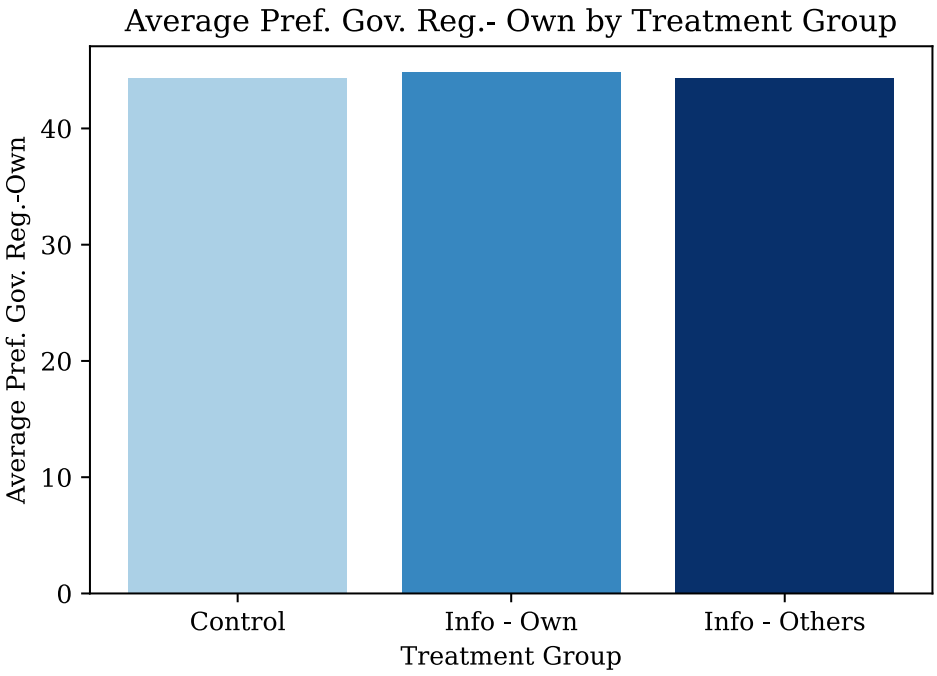

Figure 2.6: Average of Preference for regulation for themselves by Treatment Group

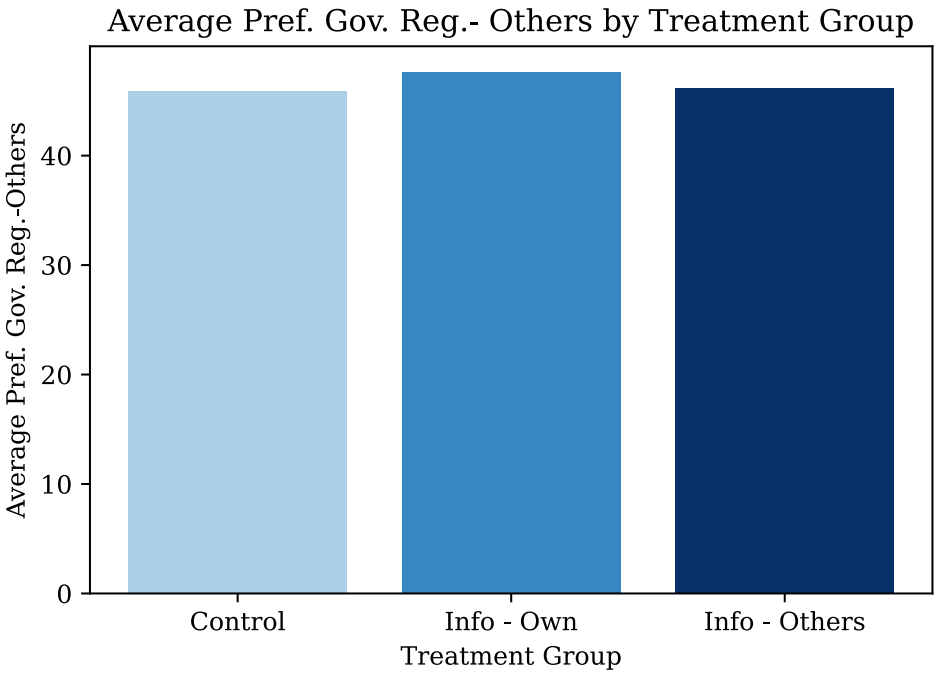

Figure 2.7: Average of Preference for regulation for population as whole by Treatment Group

As was found in Sainz Villalba and Konrad (2024), we also find that those that are more knowledgeable are more likely to want less intervention, as depicted by the downward

sloping lines seen in Figure 2.8. We can observe that the steepness is more pronounced for the respondents in Info-own group, so it seems that the treatment might have influenced the responses although not statistically significantly. In contrast, when we look at the Preference for regulation for the population as a whole by level of knowledge, Figure 2.9, we find that only in the Control group the relationship is still negative, in other words, that those that have more knowledge want less regulation for the population as a whole, while in the Info-own and Info-others treatment group the preference for regulation for the population as a whole remains relatively stable across different levels of knowledge.

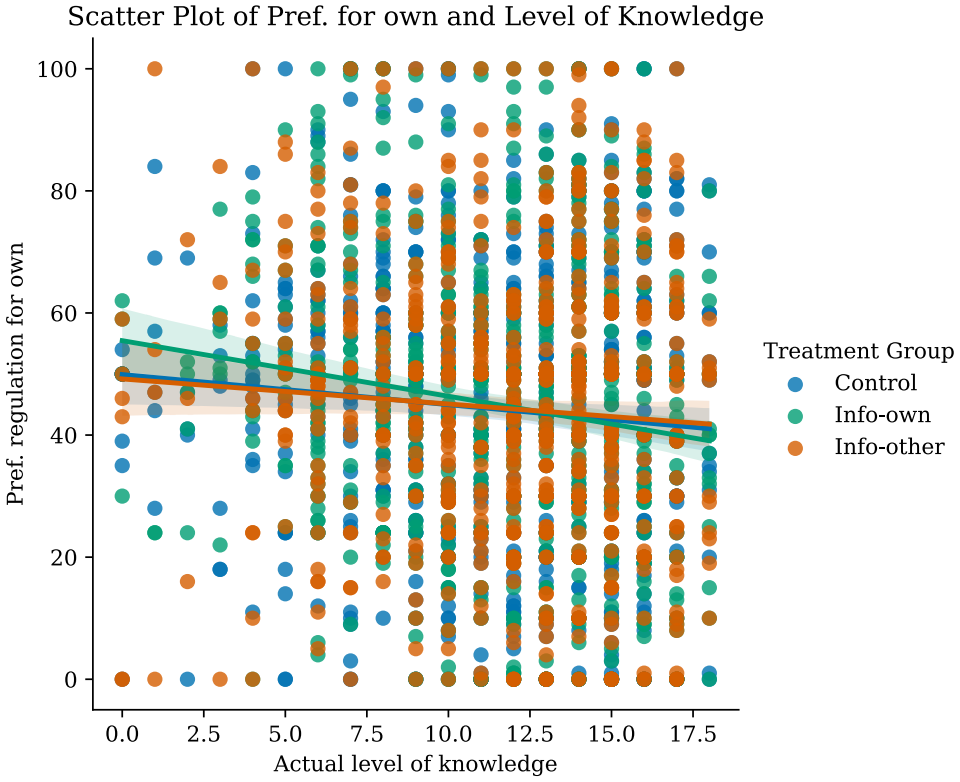

Figure 2.8: Scatter plot of Pref. regulation for themselves by Level of Knowledge

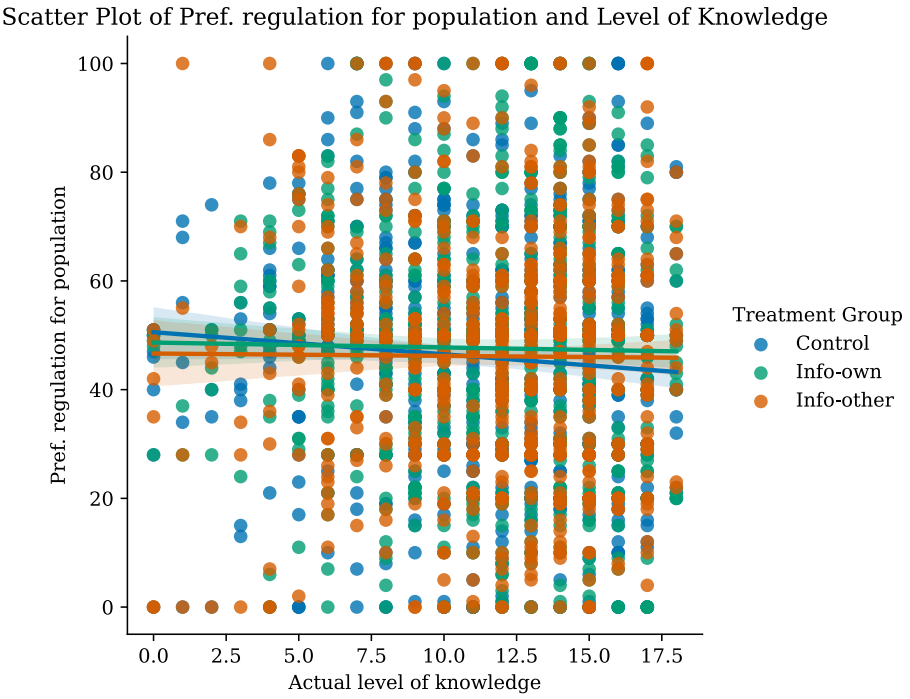

Figure 2.9: Scatter plot of Pref. regulation for population by Level of Knowledge

When we plot the relationship between the preference for regulation for themselves and the preference for regulation for others, we see that there is a significant correlation, but as found in Sainz Villalba and Konrad (2024), the respondents tend to want more regulation for the population as a whole and less for themselves, Figure 2.10, since all the fitted lines are less steep than the 45 degree line. Specifically, the respondents in Info-own group have a higher tendency to have a higher preference for the population as a whole than for themselves, but the differences are pretty small.

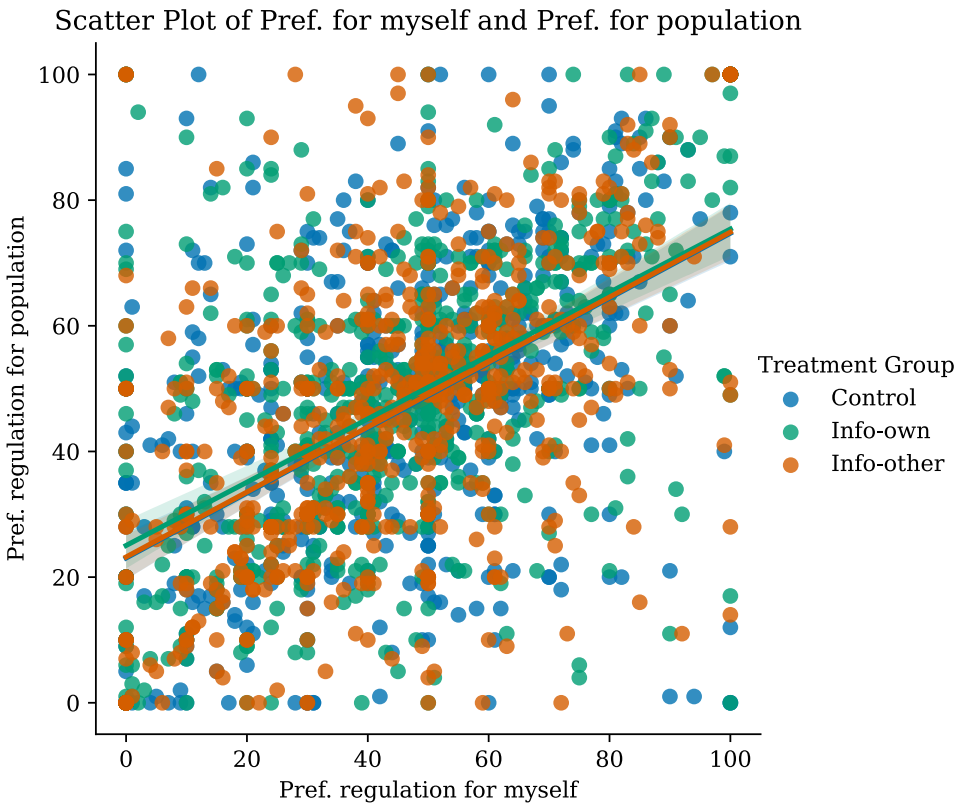

Figure 2.10: Scatter plot of Pref. regulation for themselves and Pref. regulation for the population as a whole

In Table 2.4, we can confirm that respondents with higher level of knowledge have a lower preference for government regulation for themselves. Moreover, those that have a higher level of knowledge are more likely to want more regulation for others, particularly in the Info-own group, while barely significant in the Info-others group for those respondents that correctly estimated or underestimated the percentage of coverage, the knowledge of others, the at-risk-poverty in retirement and the at-risk-poverty of the population as a whole. We do not find that overestimating the level of knowledge of individuals in other income groups decreases the preference for regulation in the information treatment groups. On the other hand, we find that respondents that overestimate the level of knowledge of low income earners are more likely to both want more regulation for themselves and for the population as a whole in the Control Group.

For the respondents that overestimate the pension that will be covered in retirement for the low income group, they decrease their preference for regulation for themselves and for

the population as a whole, although barely significant for the latter. This might be driven by the fact that those respondents are from the low income group or because they find that what the pension covers is much smaller than they thought for the income bracket that should benefit the most from the policy. Interestingly, those that overestimate the pension coverage for the average income earners have a higher preference for government regulation for the population as a whole and those that overestimate the pension coverage for high income earners have a lower preference for government regulation, but this effects are only seen in the Control Group. Unsurprisingly, those that trust the government and those that want a bigger government, that is, a government that is more involved in all aspects of life want more regulation for themselves and for the population as a whole [2].

When we introduce another set of controls like whether the respondent believes that inequality of income is a very big problem, a big problem or a problem in Germany, whether they trust their own decision-making in the area of pensions and so on, we find that most of the results remain the same. The only difference is that the level of knowledge becomes insignificant because the trust in own decisions is capturing the same behavior, those that trust their own decisions want less regulation for themselves. We can also observe that the respondents that believe that inequality is an issue want more regulation for themselves and for others (Table 2.5). Those that believe that the wealthy earned their wealth because of their advantages and not their hard work want more regulation for themselves, although it is barely significant. Those respondents that want to avoid responsibility and delegate it to the state want more regulation for themselves and for the population as a whole[3]. Those that state higher values of altruism and also negative reciprocity want more regulation for themselves and for others[4]. We also see a small effect for people that have low liquidity, they want more regulation, but the significance is low.

[2]When we conduct a generalized linear model to correct for the fact that the distribution of responses does not follow a normal distribution, we find similar results, see Appendix Table 2.7.

[3]The question was formulated in the following way: Some people like to take responsibility. But I don't really belong there and am happy to pass on the burden of responsibility to the state.

[4]The question on altruism was: Are you someone who is generally willing to share with others without expecting anything in return, or are you not willing to do so? 0 means that you are not willing to do so, and 10 means that you are very willing to do so. The question on negative reciprocity was: Are you someone who is generally willing to punish unfair behaviour, even if it comes at a cost to you, or are you

Table 2.4: Pref. Regulation for Own and Population

	(1)	(2)
	Pref for Own	Pref for Pop
Info-own group	0.435	-11.93*
	(6.509)	(6.295)
Info-others group	-3.157	-12.47*
	(6.974)	(6.852)
Level of knowledge	-0.639**	-0.439
	(0.276)	(0.271)
Info-own group × Level of knowledge	0.123	1.013***
	(0.378)	(0.367)
Info-others group × Level of knowledge	0.465	0.726*
	(0.409)	(0.393)
Overestimate knowledge for low income	7.652***	4.766**
	(2.384)	(2.321)
Info-others group × Overestimate at-risk-poverty in retirement	3.602	7.111
	(4.859)	(4.715)
Overestimate coverage for low income	3.998*	1.908
	(2.226)	(2.172)
Info-others × Overestimate coverage for low income	-9.294***	-5.668*
	(3.362)	(3.279)
Overestimate coverage for average	1.286	4.897**
	(2.334)	(2.340)
Overestimate coverage for high income	-2.178	-4.198**
	(1.909)	(1.857)
Trust government	8.329***	4.016***
	(1.271)	(1.244)
Preference for bigger gov.	5.617***	6.061***
	(1.033)	(0.995)
Constant	36.89***	40.28***
	(5.237)	(5.417)
Controls	Yes	Yes
Obs	2130	2130
R-squared	0.111	0.0792

Robust Standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Notes: Linear regression with heterokedastic standard errors. Preference for government regulation for own is a variable takes values from 0 to 100% and it measures the degree of intervention that the individual wants from the government in his/her pension decisions. Preference for government regulation for the population as a whole, also takes values from 0 to 100% and it measures the degree of intervention that the individual wants from the government for the decisions on pensions of the population as a whole. Controls included for age, sex, education, income, party affiliation and trust in government, whether respondents want a bigger size government.

Table 2.5: Pref. Regulation for Own and Population

	(1)	(2)
	Pref for Own	Pref for Pop
Trust in own pension decisions	-0.0569***	0.00179
	(0.0219)	(0.0219)
Inequality is an issue	3.580**	3.576**
	(1.528)	(1.546)
Wealth due to advantagess	1.899*	1.416
	(1.151)	(1.122)
Avoidance of responsibility	6.748***	5.346***
	(1.243)	(1.192)
Altruism	0.677**	0.835***
	(0.286)	(0.291)
Negative reciprocity	1.067***	0.801***
	(0.234)	(0.236)
Lower liquidity	0.0607*	0.0326
	(0.0316)	(0.0308)
Constant	23.58***	23.96***
	(6.633)	(6.490)
Controls	Yes	Yes
Obs	2130	2130
R-squared	0.170	0.121

Robust Standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Notes: Linear regression with heterokedastic standard errors. Preference for government regulation for own is a variable takes values from 0 to 100% and it measures the degree of intervention that the individual wants from the government in his/her pension decisions. Preference for government regulation for the population as a whole, also takes values from 0 to 100% and it measures the degree of intervention that the individual wants from the government for the decisions on pensions of the population as a whole. Controls included for age, sex, education, income, party affiliation and trust in government, whether respondents want a bigger size government.

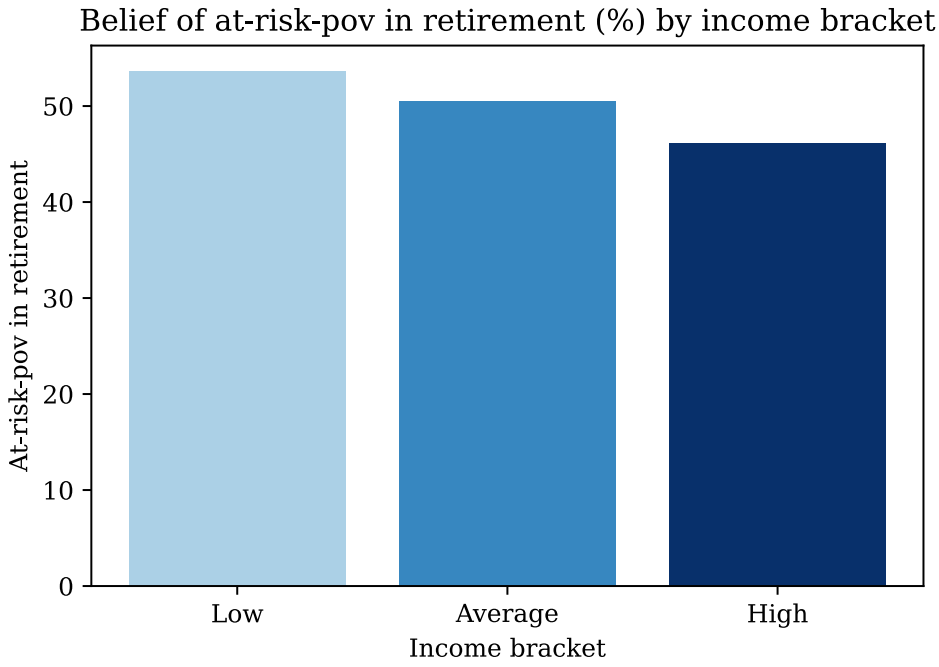

Figure 2.11: Belief of at-risk-poverty in retirement by income bracket

Despite the sizable overestimation respondents make about the at-risk-poverty in retirement, as seen in Figure 2.11, there only seems to be a small effect for respondents in the Info-others group, as shown in Table 2.7, where we conduct a generalized linear model regression, and in the opposite direction as hypothesized. Those that overestimate are more likely to want more regulation for the population as a whole, even when being provided with the information. As in Niehues et al. (2021), we find that respondents believe that the at-risk-poverty in retirement is between 40% and 50%, when in fact it is 18.3%.

2.4 Discussion

Since we find very weak results, we hypothesize whether there is no effect, because respondents do not believe the information given. We test this, by looking at the rate of credibility that the respondents gave in each treatment group to see if it significantly differs. In Figure 2.12, we can see that this is not the case.

not willing to do so? 0 means that you are not willing to do so, and 10 means that you are very willing to do so. Based on the questions in Falk et al. (2018).

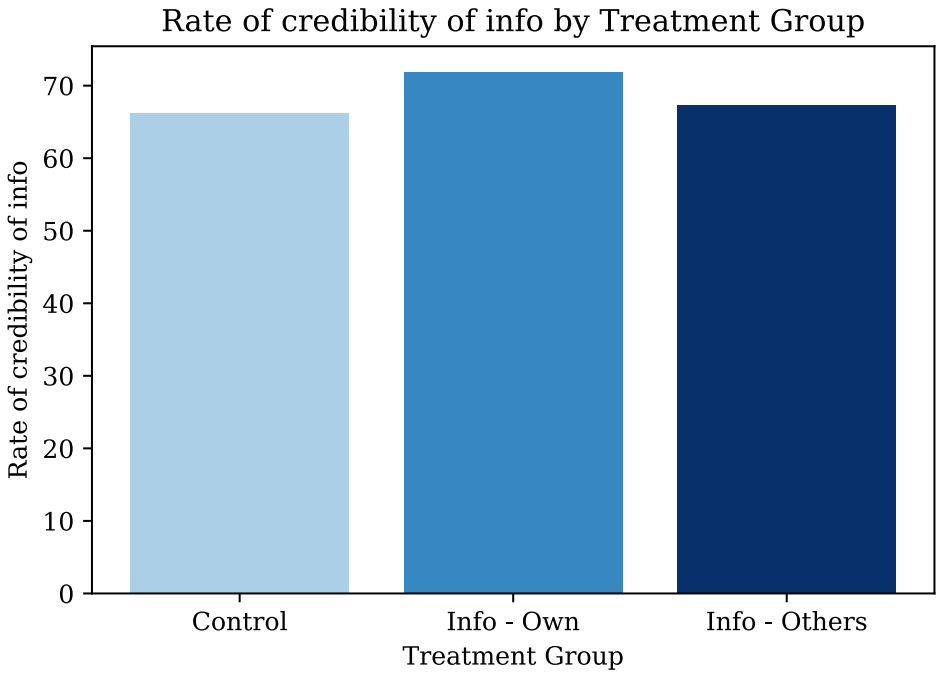

Figure 2.12: Rate of credibility by Treatment Group

We also confirm this result doing a linear regression, shown in Table 2.6. In fact, respondents in the Info-own treatment group attach a higher rate of credibility to the information given than in the Control and Info-others group.

Another possibility is that the information given was not persuasive enough to sway respondents to indicate a lower preference for regulation for themselves or for others. Or just that providing this information is not relevant for whether they want more regulation or not. Since the question on what is their preference for regulation focuses on what degree of intervention they would like of government and does not specify how should the government intervene and what, this might lead respondents to not consider relevant the information given. It might also be the case that asking respondents to provide a number from 0 to 100 for their preference makes them anchor on a number and not really be affected by the information given.

One of the limitations that might explain why the results are so weak is the fact that the division between the preferences for themselves and the preferences for the population as a whole might not be clearly delineated. Since increasing the regulation for the population as a whole would increase the regulation for themselves. Adding to this limitation is the

Table 2.6: Rate of credibility of info by Treatment Group

	(1)
	Credible info (%)
Info-own group	6.062***
	(1.158)
Info-others group	1.543
	(1.229)
Constant	62.85***
	(2.321)
Controls	Yes
Obs	2130
R-squared	0.107

Robust Standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Notes: Linear regression with heterokedastic standard errors. The rate of credibility of information takes values from 0 to 100% and it measures the belief individuals have on the reliability of the information provided. Controls included for age, sex, education, income, party affiliation and trust in government.

fact that there are too many pieces of information given to the respondent, that make them confused and unable to focus on one. Another limitation is that when providing information about others' characteristics like the level of knowledge or the coverage for other income groups, we used the actual income bracket, and not the belief about the income bracket. Therefore, we were giving them information that they could think would affect them, as they believed, wrongly, that they were in that income group. This could be the reason why we find that those that overestimated the pension coverage for the low income group and are in the Info-others group want less regulation for themselves.

2.5 Conclusion

We provide information to respondents about their own characteristics or about characteristics about people in other income groups. We find weak evidence that providing this information changes the preference for government regulation on pensions for themselves or the preference for government regulation on pension for the population as a whole. We only find that providing information on own level of knowledge increases the preference for regulation for others, but it does not decrease the

preference for regulation for themselves. There is also some indication that providing information on the pension coverage for the low income group, decreases the preference for regulation for themselves and with small significance for the population as a whole. We confirm results of Sainz Villalba and Konrad (2024) where respondents with a higher level of knowledge want less regulation, but are also the ones that want more regulation for others.

2.6 Appendix

2.6.1 Generalized linear model

Table 2.7: Pref. Regulation for Own and Population

	(1)	(2)
	Pref for Own	Pref for Pop
Info-own group	-1.215	-11.93*
	(7.284)	(6.414)
Info-others group	-6.860	-17.44**
	(8.694)	(8.568)
Level of knowledge	-0.794**	-0.583*
	(0.324)	(0.353)
Info-own group × Level of knowledge	0.134	1.099**
	(0.467)	(0.436)
Info-others group × Level of knowledge	0.708	1.063**
	(0.513)	(0.518)
Overestimate knowledge for low income	9.116***	5.647**
	(2.911)	(2.876)
Info-others group × Overestimate knowledge for low income	-7.790**	-4.271
	(3.904)	(3.758)
Info-others group × Overestimate at-risk-poverty in retirement	5.014	8.724*
	(5.066)	(4.723)
Info-others group × Overestimate coverage for low income	-10.21**	-4.140
	(4.108)	(4.135)
Overestimate coverage for average income	1.487	6.781**
	(3.096)	(3.371)
Overestimate for high income	-2.437	-4.404*
	(2.181)	(2.321)
Trust government	8.184***	3.652***
	(1.374)	(1.303)
Preference for bigger gov.	5.087***	5.989***
	(1.146)	(1.073)
Constant	40.44***	42.37***
	(5.872)	(5.703)
Controls	Yes	Yes
Obs	2130	2130
R-squared		

Robust Standard errors in parentheses
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Notes: Generalized linear model regression with heterokedastic standard errors and gamma distribution function. Preference for government regulation for own is a variable takes values from 0 to 100% and it measures the degree of intervention that the individual wants from the government in his/her pension decisions. Preference for government regulation for the population as a whole, also takes values from 0 to 100% and it measures the degree of intervention that the individual wants from the government for the decisions on pensions of the population as a whole. Controls included for age, sex, education, income and party affiliation.

2.6.2 Knowledge questions

1. Dividends are payments made by companies to shareholders

   Answer: True

2. The level of social security income from work is one of the determining factors for the level of subsequent statutory old-age pensions

   Answer: True

3. Pension payments from the statutory pension insurance are generally exempt from income tax

   Answer: False

4. What does the abbreviation "ETF" mean in the financial markets?

   Answer: Exchange Traded Fund

   Now we are interested in contributions to statutory pension insurance. Please indicate whether the following statements apply or not in your opinion.

5. In Germany, all persons who are self-employed or non-self-employed workers are required to make contributions to statutory pension insurance.

   Answer: Does not apply

6. In Germany, contributions to statutory pension insurance are fully borne by employees.

   Answer: Does not apply

7. In Germany, civil servants are required to make contributions to statutory pension insurance.

   Answer: Does not apply

8. In Germany, taxpayers are involved in financing statutory pension insurance.

   Answer: Applies

   And what do you think happens to the contributions paid into statutory pension insurance? Please indicate again whether the following statements apply or not in your opinion

9. The contributions are saved for each insured person by statutory pension insurance on a secured account.

   Answer: Does not apply

10. The contributions are invested in the capital market by statutory pension insurance.

    Answer: Does not apply

11. The contributions are used to create a fairer distribution between retirees with low income and those with high income.

    Answer: Does not apply

12. The contributions are used to finance pension payments to persons who are currently retired.

    Answer: Applies

    Now it's about the pension amount. Please tell us whether the following factors, in your opinion, have a significant influence on how much pension someone receives from statutory pension insurance. Please answer YES if you believe there is a significant influence, and NO if this is not the case.

13. The way the German Pension Insurance invests money has a significant influence on how much pension someone receives from statutory pension insurance.

    Answer: No

14. The development of interest rates in the capital market has a significant influence on how much pension someone receives from statutory pension insurance.

    Answer: No

15. The level of the last income before retirement of the insured person has a significant influence on how much pension someone receives from statutory pension insurance.

    Answer: No

16. The administrative costs of the German Pension Insurance have a significant influence on how much pension someone receives from statutory pension insurance.

    Answer: No

17. The level of one's own income in comparison to the average income has a significant influence on how much pension someone receives from statutory pension insurance.

    Answer: Yes

18. The level of contributions paid by an insured person has a significant influence on how much pension someone receives from statutory pension insurance.

    Answer: Yes

Chapter 3

Policies on dying: Assisted Suicide in Germany

3.1 Introduction

> "The principle of freedom cannot require that he should be free not to be free. It is not freedom to be allowed to alienate his freedom".
>
> On Liberty, John Stuart Mill.

The role of the government has been a fundamental and deeply researched question in economics. From a classical perspective, the government was the guarantor of the rules that facilitated the transactions between private individuals, that is, it acted to preserve that the private contracts were honored. However, with the introduction of the welfare state, the government entered the market with the provision of goods and services. With this provision, the government became an active player on the market, monopolizing some sectors and increasingly influencing others. In this domain, the policies so called paternalistic were introduced, where the government introduces a policy that influences or restricts the behaviour of the individual to enhance the well-being of such individual like defaults in pensions, bans on cigarettes and sugar, and so on (benevolence principle, Dworkin (1972), Dworkin (2017), Sunstein and Thaler (2003)).

In developed countries, many governments have followed the axiom of creating a right from a necessity, that is why in many Constitutions of the developed countries they include the right to a home, the right to a sustainable environment, the right to an adequate standard of living, making the governments to be a sort of all-provider and

alleviator of suffering[1]. Some governments have also included the necessity of having a right to die, right to a dignified death or right to a self-determined death. Belgium and the Netherlands were the first countries in Europe to implement a policy that legalized assisted suicide in 2002, both by an active participation by a third-party, injecting the substance or by passive participation, providing the drug to the person that wants to die. In Germany, the Constitutional Court in February of 2020 ruled that as an expression of personal autonomy, the general right of personality encompasses the right to a self-determined death (Bundesverfassungsgericht (2020)). This case was brought to the court by individuals that complained that their fundamental right of personality was being infringed by not being able to get suicide assistance, doctors that stated that their freedom of conscience was being restricted and lawyers that stated that their occupational freedom was being limited by the Penal Code that established the persecution of those aiding people that wants to kill themselves. Due to this ruling assisted suicide in Germany was no longer illegal, but unregulated. The court acknowledge that this right would contradict with the duty to protect the autonomy of people that want to commit suicide and the duty to protect life of the state that has programs for suicide prevention, however it states that these protections cannot interfere with the right of personal autonomy. This prompted policy-makers to try to establish a regulation for assisted suicide in Germany and on 6th of July 2023 two proposals were debated and voted in the Bundestag that were both in the end rejected (Bundestag (2023)). One was deemed to be too harsh, still keeping as a crime the business aid for suicide and the other one was deemed to be too bland, allowing different agents to be involved in the provision of fatal drugs and assistance. These events brought the regulation of policies on dying to a halt, but it is probably going to be debated and regulated in the near future. Therefore, our motivation for the present study is to understand the opinion of the German population on this topic, what is their knowledge and what influences them to change opinion.

Specifically, we have two main research questions:

[1]The third generation of fundamental rights covers the rights of groups, e.g.: rights of self-determination as a collective, right to economic and social development, right to participation in cultural heritage and so on https://en.wikipedia.org/wiki/Three_generations_of_human_rights#Third-generation_human_rights

- Can the exposure to real-life cases change the level of support for the legalization of assisted suicide? Extensive margin
- Does a higher number of approved to rejected cases decrease the level of support to this policy? Intensive margin

To do this we conduct a survey experiment where we expose respondents to 3 real-life cases randomized of a set of 18 cases, where 10 were approved and 8 were rejected, from the countries where this policy has been implemented, mainly Belgium, Netherlands, Canada and Colombia. It is both a between and with-in subject design, since we ask respondents for their level of support before and after providing the actual information on the outcome of each case. We divide respondents into three groups, randomly, in the Control Group we ask respondents some knowledge questions and some opinion questions on the topic, without providing them with the correct answers, thus in this group we want to measure the salience effect of just making respondents think about the topic. In the second group, the Cases Group, we provide respondents with 3 real-life cases, we elicit their beliefs about whether the cases were approved or reject and we incentivize them by providing a monetary reward in case they were correct (20 cents), after updating them on the actual outcome of each case, we ask them again about their degree or level of support to the policy. In the third group, the Cases + Knowledge Group, we expose them to the cases, ask them about their belief, incentivize them for their accurate answers, update them on the answer and before asking them again about their level of support, we ask them about their level of knowledge and opinion on the topic, hence including the same set of questions that were asked to respondents in the Control Group.

We find that exposure to cases decreases support on the ends of the distribution (those that Strongly Oppose or Strongly Favour), but does so moderately, as there are very few people that change opinion. We do not find that just exposing to more approved than rejected cases changes opinion significantly, but that in fact the change in opinion is mediated by the prior belief respondents have. Particularly, there seems to be a confirmation bias, that is that respondents that are accurate in predicting that the cases were approved are more likely to keep favouring or even change to strongly favour, while respondents that accurately predict the rejection are more likely to oppose or

strongly oppose. We also find that those that are biased towards rejection are more likely to oppose or strongly oppose and those that are biased towards approval are more likely to change to unsure. We examine why change in opinion is so low and find that although the respondents that are more likely to change opinion are those that strongly oppose, oppose or are unsure, they are the ones that rate of the credibility of the information given lower than those that favour or strongly favour which view the information provided to be more credible. We also examine other possible channels for why the change in opinion is so low, like the consistency preference, anchoring bias or confirmation bias and the level of knowledge respondents have.

We contribute to the body of literature that has focused on information treatments to understand the determinants for the support of certain topics, most prominently like the work by Stantcheva et al., among others (Alesina et al. (2023)). In this paper they want to see whether the views on immigration shape the preferences for redistribution. They find that just making the topic of immigration salient is sufficient to decrease support for redistribution and providing actual information of the share of immigrants and the characteristics is insufficient to make the preferences for redistribution to change. In a similar fashion, we find that providing information once respondents have stated their initial opinion does not change opinion as much as just making the topic salient.

There has been some papers that have also looked at the public opinion on assisted suicide. Treger (2023) looks at the support for government intervention on several topics, one of them being, assisted suicide or euthanasia. She finds that individuals in the US are less keen on having the government intervene by introducing bans, information campaigns, nudges or restrictions in the so-called morals domain.

This paper is organized as follows, in section 2 we explain the data used and the methodology, in section 3 we show the results, in section 4 we discuss the mechanisms and findings and in section 5 we conclude with a consideration of the limitations and the avenues for future research.

3.2 Data

We conducted the experiment in March 2024 with a representative sample of the German Population, collecting data for 3095 respondents. The sample is representative with respect to sex, age, income and state of residence. In Table 3.1, we can see the descriptive statistics of our sample, the mean respondent is 48 years old, unmarried, living with another person, without children, with an income between 2500 euros and 4000 and with a high school education.

Table 3.1: Summary Statistics

VARIABLES	Mean	Sd	Min	Max
Female	0.516	0.500	0	1
Age	47.28	15.94	18	88
Civil Status	1.618	0.486	1	2
Adults in Household	1.913	0.846	0	7
Children in Household	0.443	0.811	0	6
Dependent parents	0.113	0.317	0	1
Dependent parents in Household	0.0502	0.218	0	1
Income	3.153	1.531	1	7
Education	3.813	1.020	1	5

Notes: Female is a dummy variable that takes the value of 1 if the respondent is a woman. Civil Status is a categorical variable that takes the value of 1 if the respondent is single and 2 if the respondent is married. Income is a categorical variable that takes values from 1 to 7, where 1 means incomes less than 1500€ per month, 2 means income between 1500 to 2500€, 3 means income between 2500 and 4000€, 4 means income between 4000-5000€, 5 means income between 5000 and 6000€, 6 means income between 6000 and 7000€, and 7 means more than 7000€. Education is a categorical variable that takes values from 1 to 5, where 1 corresponds to No schooling, 2 corresponds to Hauptschule o.ä, 3 corresponds to Mittlere Reife, 4 corresponds to Abitur o.ä (High School), and 5 corresponds to Hochschul/Fachhochschulabschluss o.ä (University).

We can see that our sample is not significantly different from the German Population with respect to sex, age, income and state of residence, so that it is indeed representative (Table 3.2).

Table 3.2: Representativeness of our sample

VARIABLES	Sample Mean	Population Mean
Female	0.516	0.50
Age_btw_18_29	0.185	0.18
Age_btw_30_39	0.175	0.17
Age_btw_40_49	0.165	0.16
Age_btw_50_59	0.217	0.21
Age_more_than_60	0.258	0.28
Income_less_1500	0.134	0.13
Income_btw_1500_2500	0.216	0.21
Income_btw_2500_4000	0.320	0.31
Income_more_than_4000	0.330	0.35
Baden_Württemberg	0.134	0.13
Bayern	0.164	0.16
Berlin	0.0410	0.04
Brandenburg	0.0310	0.03
Bremen	0.0103	0.01
Hamburg	0.0204	0.02
Hessen	0.0683	0.07
Mecklenburg_Vorpommern	0.0204	0.02
Niedersachsen	0.100	0.10
Nordrhein_Westfalen	0.217	0.22
Rheinland_Pfalz	0.0451	0.05
Saarland	0.0100	0.01
Sachsen	0.0514	0.05
Sachsen_Anhalt	0.0207	0.02
Schleswig_Holstein	0.0407	0.04
Thüringen	0.0307	0.03

To conduct the survey experiment we programmed it in Qualtrics (Qualtrics (2024)) and was distributed by the company Bilendi&Respondi [2]. The main dependent variable is the level of support for the legalization of assisted suicide in Germany. The scale of this variable is a likert scale from 1 to 5, where 1 corresponds to strongly oppose legalization, and 5 corresponds to strongly favour legalization.

[2]Ethics Committee approval in the University of Munich with registration title Project 2023-24, “Policies on dying: "Sterbehilfe" or Physician Assisted suicide”

Our survey experiment consisted of eliciting the beliefs of respondents on the approval or rejection of real-life cases of assisted suicide in the countries where it has already been implemented (Canada, Belgium, Netherlands, Colombia) and then updating their belief by providing the actual outcome in each case. Therefore, our survey experiment consists of providing information to the respondent, in the manner of Stantcheva and others (Alesina et al. (2023)). The design was both a between and with-in subject design, since we divided respondents into three groups (Control, Cases and Cases+Knowledge), with varying degrees of information and also as we asked each respondent for their level of support before and after being presented with the information. In the Diagram on 3.1, it is shown what varied between each group. In the Control Group, we asked respondents some knowledge questions like which countries have already implemented this policy and what is their opinion of different aspects of this type of policy, thus in this group we are assessing the salience impact of the topic, since we do not update them on the actual information. In the Cases Group, we elicit the beliefs of respondents on whether some real-life cases were approved or rejected and we incentivize them to guess correctly by providing them an additional monetary reward for each correct answer (20 cents). After they had guessed, we provide them with the actual outcome for each case and asked them again about their level of support. In the third group, Cases + Knowledge Group, we combine the salience and the belief updating by asking respondents about their level of support after asking them their beliefs and their level of knowledge and opinions. We collected 18 real-life cases from countries were assisted suicide is legal (Canada, Belgium, Netherlands) and we presented each respondent with 3 randomized out of the 18 cases, so that there could be 0,1,2,3 out of 3 approved or rejected cases, respectively. In our sample of cases we have 10 approved cases and 8 rejected cases, we present a detail description of each case in the Appendix, as it was shown to respondents (translated to English).

When we look at the distribution of responses, we can see that almost 82 % of our sample supports the legalization of assisted suicide across all treatments, 3.2. This result goes in line with what has been found in previous polls regarding this topic conducted by the Allensbach Institute of Demographics in Germany, where they find in 2014 that 78% of respondents were in favour of stopping life-prolonging treatments upon request

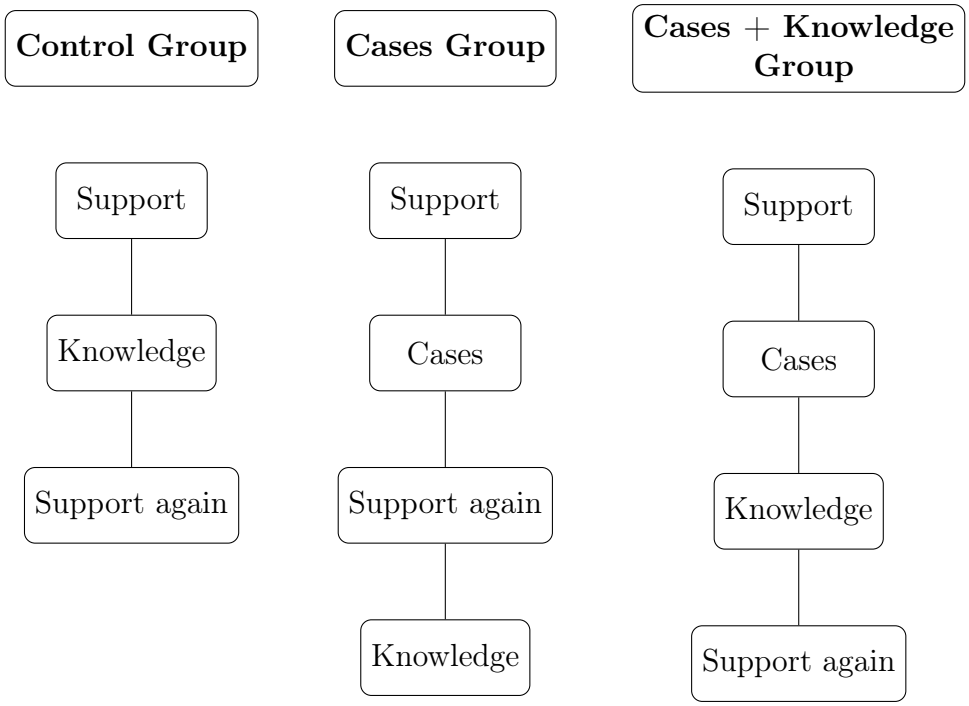

Figure 3.1: Diagram of Treatment groups

and 67% of respondents were in favour of providing assisted suicide for terminally ill people upon request (Allensbach (2014)). In addition, we can see that before treatment, the percentage of respondents in each category is not statistically different, so that the preferences of respondents in each treatment group appears to be very similar in its distribution. Interestingly, when we break it down by age, we can see that there seems to be an increasing level of support, except for the age group above 80 years old, however this change in the trend can be due to the fact that we only have 8 people in our sample that are above 80 years old, (Figure 3.4).

When we look at the relationship between the support for the legalization of assisted suicide and the support for assisted suicide itself, we can see that those that favour assisted suicide also favour the legalization, while those that oppose it are also against the legalization or are unsure about the legalization. Those that are unsure about assisted suicide are either unsure about legalization or slightly favour legalization, as show in Figure 3.3.

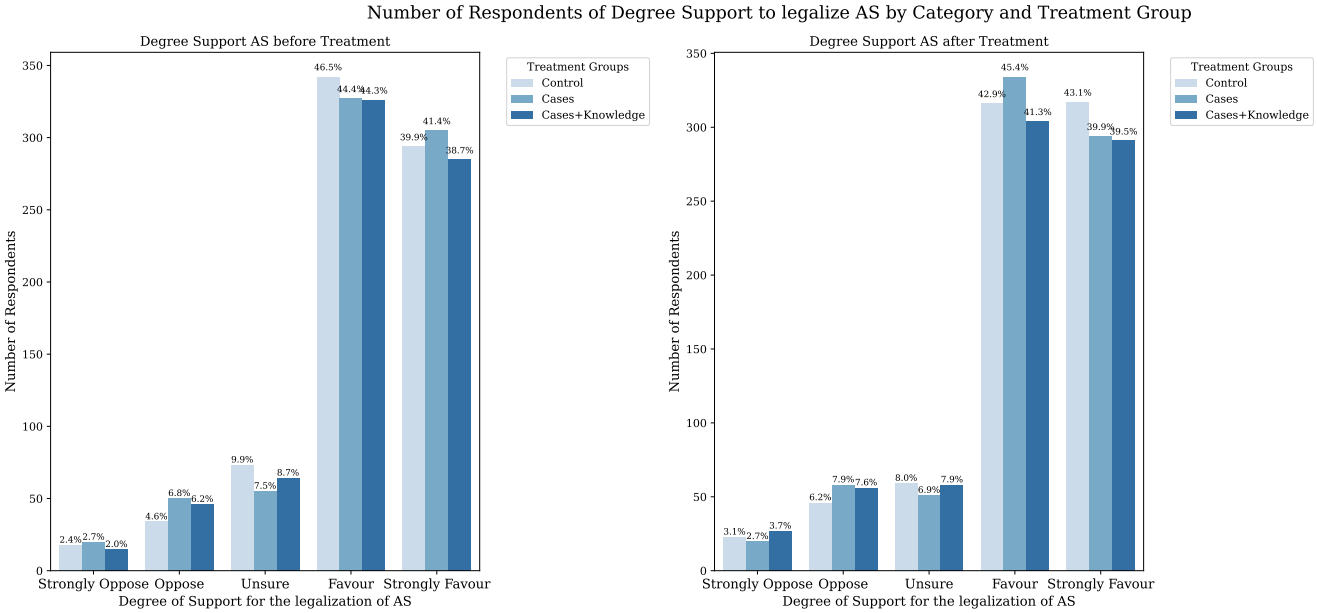

Figure 3.2: Distribution of Responses on Degree of Support for legalization of AS before and after Treatment

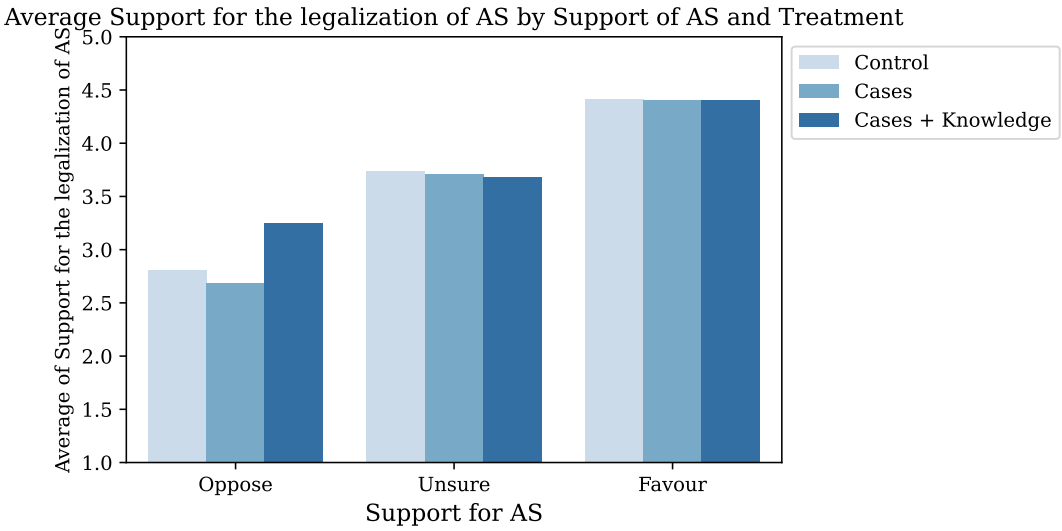

Figure 3.3: Support for legalization and Support for assisted suicide by Treatment Group

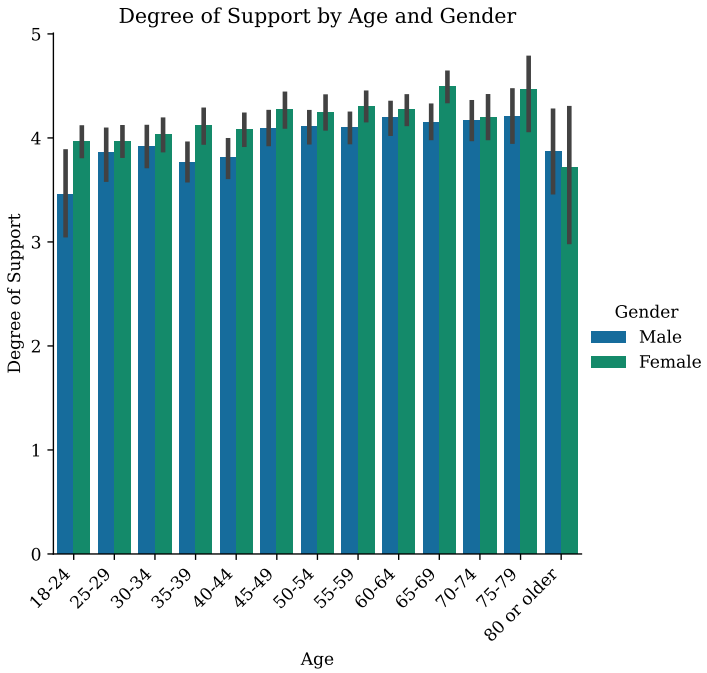

Figure 3.4: Degree of Support by Age and Gender

In Table 3.3, we can see that the control and treatment groups are balanced and are not statistically different from each other, this shows that the randomization was successful[3].

Table 3.3: Comparison of Demographic Characteristics Across Treatment Groups

Characteristic	Mean-Control	Mean-Cases	Mean-C+K	Sig CvsControl	Sig C+KvsControl
Age	54.84	52.21	56.91	ns	ns
Female	0.47	0.47	0.47	ns	ns
Education	3.79	3.72	3.76	ns	ns
Income	3.22	3.14	3.11	ns	ns

Notes: T-tests comparing the differences in demographic characteristics between the Treatment Groups and the Control Group. Control Group corresponds to the group that was only presented with knowledge and opinion questions on assisted suicide. Cases Group is the group that was presented with real-life cases and C+K is the Cases + Knowledge group that combines both the real-life cases and the knowledge and opinion questions presented in the Control Group.

Our hypothesis on the extensive margin was that the exposure to cases would change the level of support (H.1), we did not explicitly establish in which direction the change would occur, in particular, we did not hypothesize that exposure to cases would increase the level of support for legalizing assisted suicide since this could depend on whether approved

[3]Due to a technical problem, the group identifiers were not collected for some respondents (300 per group), that is why there are less females in this table, however this does not change the results as we saw that the Degree of Support does not change significantly when excluding those without an identifier for the group and since it is balanced across groups. We end up with 761 respondents in the Control Group, 757 respondents in the Cases Group and 736 respondents in the Cases + Knowledge Group

or rejected cases were present. We did hypothesized that exposure of more approved than rejected cases would decrease the level of support for the legalization of assisted suicide (H.2). Our understanding was that being exposed to cases that respondents would consider to be inappropriate for approval, such as those concerning a minor, would increase opposition to the assisted suicide policy implementation.

3.3 Main Results

The first thing we can see is that only 21% of our sample was affected by the treatments, that is that they changed their level of support. More specifically, 654 respondents changed their opinion. However, we observe that not all respondents that changed their opinion were in the treatment groups, there are 256 respondents that changed their opinion in the Control group. Therefore, respondents that changed their opinion in the treatment groups amount to 26% of the total respondents in the treatment groups and 24% respondents changed their opinion in the Control Group. In Figure 3.5, we can see the heatmap of transitions from category to category that occurred in the sample, for example we can see that there were 13 respondents that changed from "I don't know" (equal to 3 in x-axis) to "Strongly oppose" (equal to 1 in y-axis).

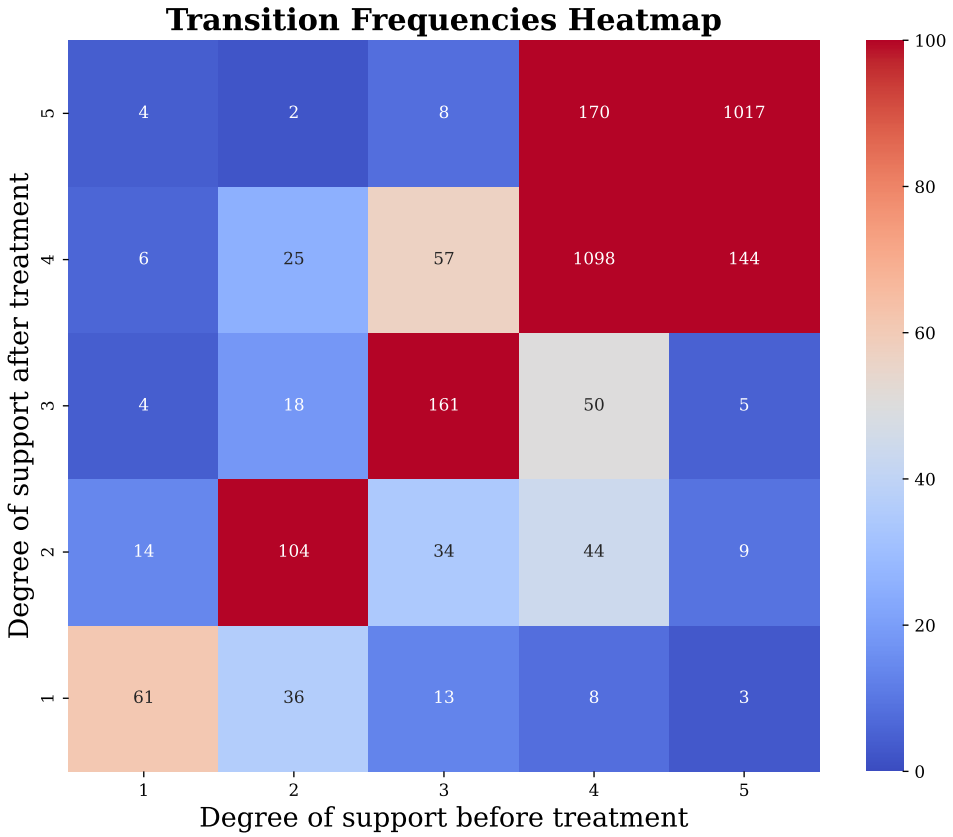

Figure 3.5: Heatmap of Degree of Support for AS before and after treatment

Notes: On the x-axis it is displayed the Degree of support before any information was given or any knowledge question was asked. Category 1 corresponds to those respondents that Strongly Oppose legalization of Assisted Suicide, Category 2 corresponds to those respondents that Opppose legalization of Assisted Suicide, Category 3 corresponds to those respondents that are Unsure of whether Assisted Suicide should be legal or not. Category 3 corresponds to those respondents that Favour legalization and Category 5 corresponds to those respondents that Strongly Favour legalization. On the y-axis it is shown the Degree of Support after treatment with the values being the same as for the x-axis variable. In each square it is represented the number of respondents.

By looking at the change by category in Figure 3.6, we can see that there is a statistically significant difference of Support before and after treatments, independently from the group respondents were in, specifically, there seems to be more people that Strongly Oppose or Oppose and more people that Strongly Favour, while there is less people that are Unsure or just Favour legalization of assisted suicide (AS). It would seem, thus far, that the overall effect of our experiment is to increase support on the opposite ends of the Support variable.

However, when we look at a dummy variable that takes the value of 1 if the respondent changes opinion in column 1 of Table 3.4 by treatment group and by degree of support before any information was given, we can see that the respondents that are more likely to

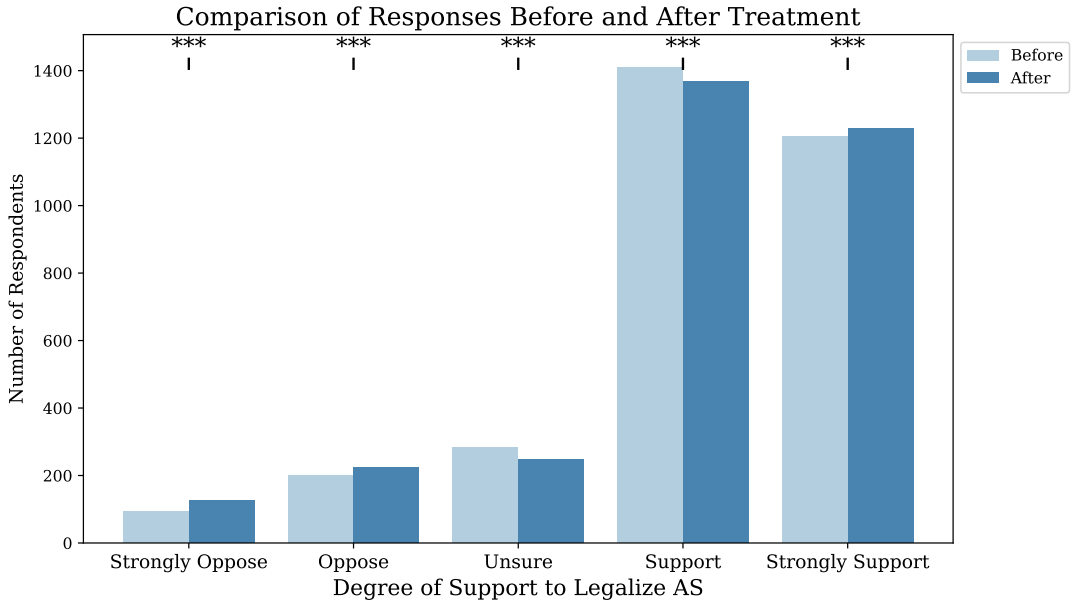

Figure 3.6: Change in Support before and after Treatments

change their opinion are the ones that Oppose and the ones that are Unsure with respect to the base reference which corresponds to respondents that Favour the legalization, whereas the least likely are the respondents that Favour or Strongly Favour legalization, and as we saw in Figure 3.2, these are the bulk of our sample. On the second column we can see the respondents that did not change their opinion, which gives the mirror results of column 1, as it is constructed as a binary variable that takes the value of 1 if people did not change their opinion. Unfortunately, there does not seem to be any significant difference between the respondents in the Cases and Cases+Knowledge treatment group and the respondents in the Control Group, so it seems our hypothesis H.1 does not hold, showing cases to respondents does not significantly change their opinion about the legalization of assisted suicide.

To understand in which direction change in opinion occurs, we construct three dummy variables (Table 3.5). The first dummy variable takes the value of 1 if the respondent changed opinion to Strongly Oppose or Oppose and they were not before the treatment in each of those categories, respectively (column 1). The second dummy variable takes the value of 1 if the respondent changed opinion to Unsure coming from Strongly Oppose, Oppose, Favour or Strongly Favour, thus excluding those respondents that remain Unsure (column 2). Finally, we construct a dummy variable that takes the value of 1 if the

Table 3.4: Change Opinion by Degree of Support and Treatment Group

	(1)	(2)
	Change Opinion	UnChange Opinion
Strongly Oppose	0.747	-0.747
	(0.515)	(0.515)
Oppose	1.210***	-1.210***
	(0.388)	(0.388)
Unsure	0.762***	-0.762***
	(0.275)	(0.275)
Strongly Favour	-0.615***	0.615***
	(0.209)	(0.209)
Cases	-1.326***	1.326***
	(0.243)	(0.243)
Cases + Knowledge	0.0728	-0.0728
	(0.179)	(0.179)
Strongly Oppose × Cases	0.312	-0.312
	(0.785)	(0.785)
Strongly Oppose × Cases + Knowledge	0.0761	-0.0761
	(0.743)	(0.743)
Oppose × Cases	-0.451	0.451
	(0.587)	(0.587)
Oppose × Cases + Knowledge	-0.434	0.434
	(0.507)	(0.507)
Unsure × Cases	0.742	-0.742
	(0.454)	(0.454)
Unsure × Cases + Knowledge	0.399	-0.399
	(0.401)	(0.401)
Strongly Favour × Cases	0.567	-0.567
	(0.364)	(0.364)
Strongly Favour × Cases + Knowledge	-0.0286	0.0286
	(0.294)	(0.294)
Constant	-1.191***	1.191***
	(0.303)	(0.303)
Controls	Yes	Yes
Obs	2248	2248
R-squared	0.0987	0.0987

Robust Standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Notes: Logistic regression. Change Opinion is a dummy variable that takes the value of 1 if the Degree of Support before treatment is different from the Degree of Support after treatment. Unchange Opinion is a dummy variable that takes the opposite values of Change Opinion, that is, it takes the value of 1 if the Degree of Support remains the same before and after treatment. Controls include gender, age, education, income, trust in government, respondents that want the government involved in all aspects of life, religion and party affiliation.

respondents changed to Favour or Strongly Favour, excluding those that remain with an opinion of Favour or Strongly Favour, respectively (column 3). We find that the respondents that are more likely to change opinion (change support) are the ones that Strongly Oppose, Oppose or are Unsure. Specifically, the respondents that are Strongly Oppose are more likely to change to Oppose and vice versa in the Control Group, and the respondents that are Unsure are more likely to change to Oppose or Strongly Oppose. The respondents that Oppose are also more likely to change to Unsure in the Control Group. On the other hand, the respondents that Favour or Strongly Favour are less likely to change opinion. Interestingly, respondents that are in the Cases group and Oppose are less likely to change opinion and respondents that Strongly Favour are more likely to change to Favour. Respondents that Favour legalization are also less likely to change opinion when presented with real-life cases. The respondents that Favour in the Cases + Knowledge group are more likely to change to Unsure. So it seems that the respondents that are presented with the real-life cases and are corrected in their belief of the approval or rejection of each are less likely to change support to the ends of the distribution and even more likely to change to more middle categories for those that Strongly Favour [4].

We can also see the same results, by looking at the following Figures, where we can see the histogram of responses by Degree of Support and Treatment Group. We can see that in the Control Group in Figure 3.7, there is an increase of respondents in the categories of Strongly Oppose and Oppose, whereas there is a decrease in those that Favour that mitigates the increase in those that Strongly Favour. In Figure 3.8, we can see that the change of the bars is much smaller, so that the change in opinion is less acute and specifically those that Strongly Oppose remain in the same proportion as before treatment. Finally, in Figure 3.9, we can see as in the Control Group that there is an increase of respondents that Strongly Oppose and Oppose, whereas there is a reduction in the respondents that Favour legalization and there is a very slight increase of respondents that Strongly Favour legalization.

[4]When looking at each category independently, we find similar results, see Table 3.12 in Appendix

Table 3.5: Change Opinion by support and treatment group

	(1) Change to Oppose or Strongly Oppose	(2) Change to Unsure	(3) Change to Favour or Strongly Favour
Strongly Oppose	1.834***	0.490	-0.0618
	(0.675)	(1.020)	(0.670)
Oppose	2.278***	1.516**	-0.216
	(0.539)	(0.630)	(0.503)
Unsure	1.823***	0	0.357
	(0.445)	(.)	(0.318)
Strongly Favour	-0.887	-2.192**	-0.399*
	(0.575)	(1.044)	(0.226)
Cases	-0.572	-0.236	-1.765***
	(0.509)	(0.482)	(0.327)
Cases + Knowledge	0.258	0.822**	-0.203
	(0.378)	(0.393)	(0.211)
Strongly Oppose × Cases	-0.331	0	1.308
	(1.085)	(.)	(1.015)
Strongly Oppose × Cases + Knowledge	-0.485	0.140	-0.0392
	(1.141)	(1.326)	(1.041)
Oppose × Cases	-2.665**	-0.500	1.129
	(1.074)	(0.932)	(0.787)
Oppose × Cases + Knowledge	-0.474	-1.424	0.254
	(0.719)	(0.900)	(0.679)
Unsure × Cases	0.746	0	0.621
	(0.706)	(.)	(0.654)
Unsure × Cases + Knowledge	0.115	0	0.586
	(0.607)	(.)	(0.451)
Strongly Favour × Cases	0	0.165	1.103***
	(.)	(1.483)	(0.428)
Strongly Favour × Cases + Knowledge	-0.0288	-0.807	0.237
	(0.770)	(1.471)	(0.325)
Constant	-3.597***	-3.202***	-1.688***
	(0.616)	(0.761)	(0.355)
Obs	1937	1786	2245
R-squared	0.212	0.159	0.0589

Robust Standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Notes: Logistic regression. The dependent variable in column 1 is a dummy variable that takes the value of 1 if the respondent changed their support either to Oppose or Strongly Oppose excluding those that do not change their opinion in those categories. The dependent variable in column 2 is a dummy variable that takes the value of 1 if the respondent changed their support to Unsure and were not unsure before treatment. The dependent variable in column 3 is a dummy variable that takes the value of 1 if the respondent changed their support either to Favour or Strongly Favour excluding those that do not change their opinion in those categories. The coefficients of 0 appear because there were no observations or insufficient observations in those categories, e.g.: there were no respondents that changed from Strongly Favour to Oppose or Strongly Oppose. Controls include gender, age, education, income, respondents with disabled parents, respondents with parents living at home, trust in government, respondents that want the government involved in all aspects of life, religion and party affiliation.

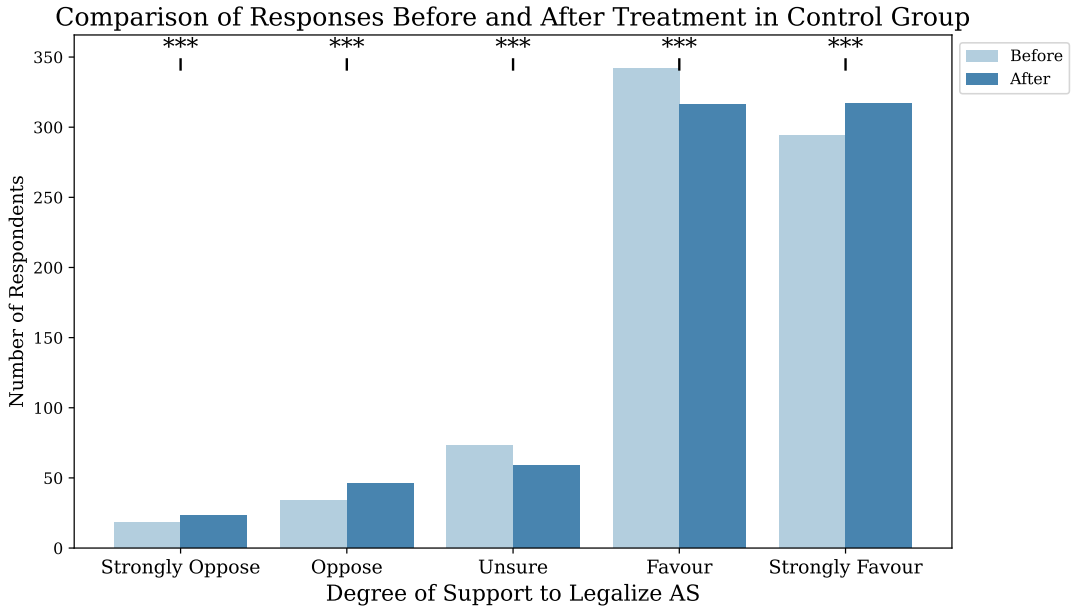

Figure 3.7: Histogram of Responses by Degree of Support of AS in Control Group

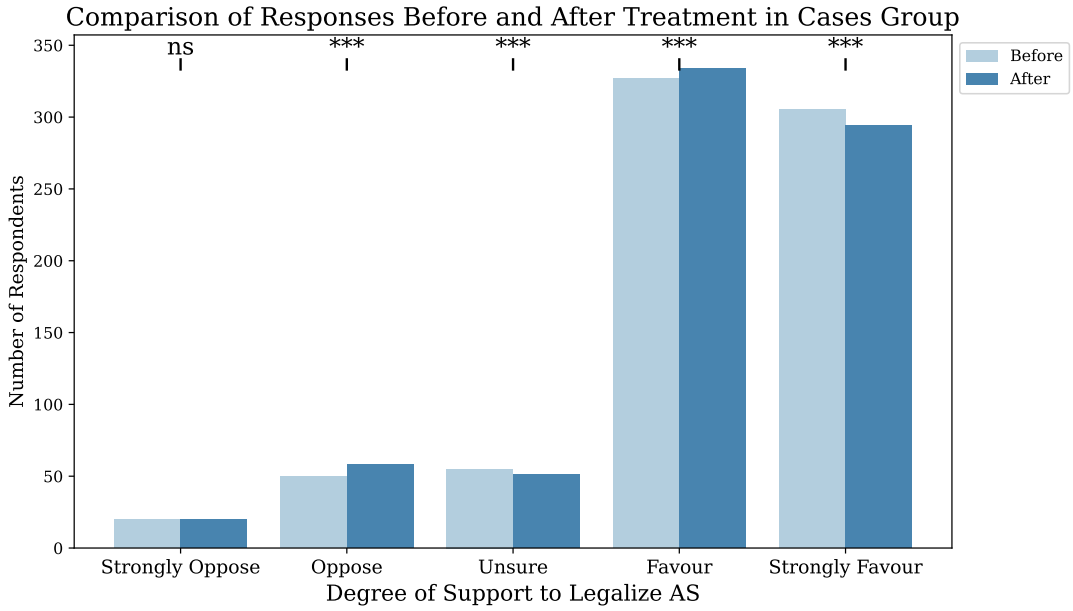

Figure 3.8: Histogram of Responses by Degree of Support of AS in Cases Group

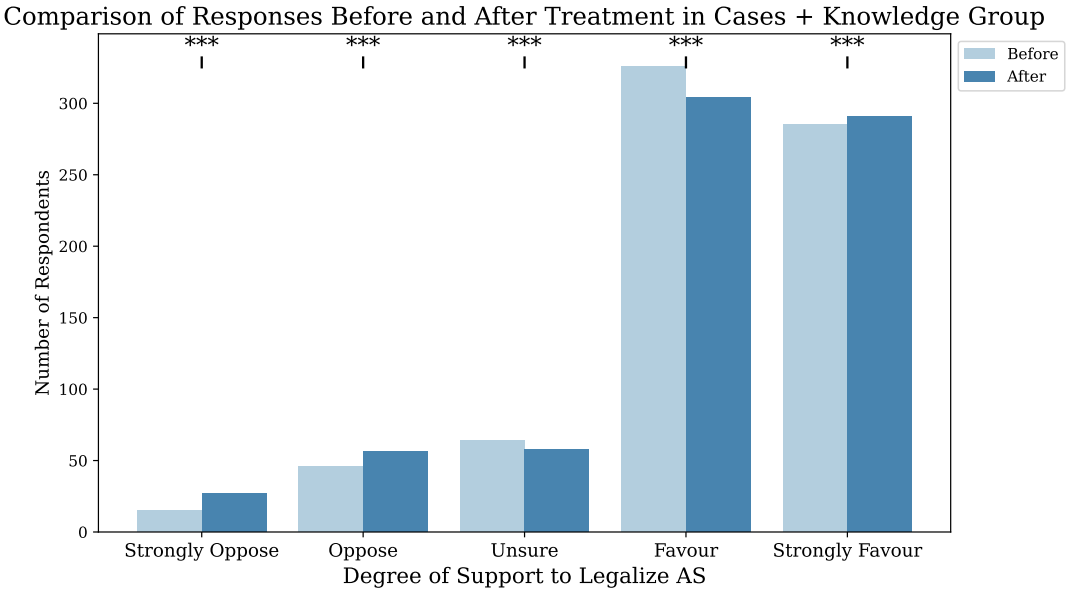

Figure 3.9: Histogram of Responses by Degree of Support of AS in Cases+Knowledge Group

Summarizing, the Cases Treatment Group seems to make respondents less willing to change to the tails of the Degree of Support variable and more likely to remain in the categories of Oppose or Favour for the legalization of assisted suicide. In addition, those that Strongly Favour are more likely to change to Favour in this treatment group. In the Cases and Knowledge Treatment Group it is less likely that respondents that were unsure remain unsure, but more likely that those that Favour change to unsure. In conclusion, it seems that the exposure to cases makes changing opinion less likely, but when it does change, it changes to the categories in the middle. The combination of Cases and Knowledge seem to impact more the respondents that Favour legalization, which switch to unsure making them less confident about their position.

On a side note, respondents that have parents in need of care or with disabilities are more likely to Strongly Favour the legalization of assisted suicide and those that have their parents living with them are more likely to Oppose legalization (Table 3.12).

Regarding our second hypothesis on the intensive margin, more precisely, whether more exposure to approved than rejected cases would decrease support to the policy, we actually find no evidence of that, since there are very few respondents that change opinion and in fact what we see is that having more approved than rejected cases (2 or 3 out of 3 cases

presented) makes respondents more likely to not change opinion (Table 3.6). We find that presenting respondents with 3 rejected cases increases slightly the opinion to unsure, while having 1, 2 or 3 approved cases makes the change to favour or strongly favour less likely, so that respondents are more likely to unchange opinion in Table 3.6 with respect to the respondents that were in the Control Group.

Table 3.6: Change Opinion by approved or rejected cases

	(1) Change to Oppose or Strongly Oppose	(2) Change to Unsure	(3) Change to Favour or Strongly Favour
3 rejected cases	-0.434	0.858*	-0.315
	(0.512)	(0.467)	(0.274)
1 approved case	-0.203	-0.0982	-0.301**
	(0.225)	(0.324)	(0.140)
2 approved cases	-0.0862	0.0611	-0.458***
	(0.208)	(0.307)	(0.135)
3 approved cases	-0.201	-0.0398	-0.649***
	(0.288)	(0.447)	(0.212)
Constant	-2.729***	-3.787***	-1.760***
	(0.440)	(0.654)	(0.283)
Obs	3073	3069	3091
R-squared	0.0812	0.0517	0.0188

Robust Standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Notes: Logistic regression. The dependent variable in column 1 is a dummy variable that takes the value of 1 if the respondent changed their support either to Oppose or Strongly Oppose excluding those that do not change their opinion in those categories. The dependent variable in column 2 is a dummy variable that takes the value of 1 if the respondent changed their support to Unsure and were not unsure before treatment. The dependent variable in column 3 is a dummy variable that takes the value of 1 if the respondent changed their support either to Favour or Strongly Favour excluding those that do not change their opinion in those categories. Controls include gender, age, education, income, trust in government, respondents that want the government involved in all aspects of life, religion and party affiliation. The reference group is the respondents that were in the Control Group, that is that they were not presented with real-life cases.

When we look at the belief of respondents of whether cases were rejected or approved in Table 3.7, we find that those that mistakenly state that two or three cases were rejected when in fact they were not, are more likely to change to oppose or strongly Oppose with respect to those that correctly guessed the approval or rejection for the three cases presented. On the other hand, respondents that believed that three out of the three cases were approved when in fact they were not are more likely to change to favour or strongly

favour. Those respondents that correctly guessed one, two or three out of three cases independently of whether the cases were approved or rejected are less likely to change opinion, as shown by the Constant.

Table 3.7: Change Opinion by belief of approved or rejected cases

	(1) Change to Oppose or Strongly Oppose	(2) Unchange Opinion	(3) Change to Favour or Strongly Favour
1 case rejected and incorrect	0.0497	0.134	-0.163
	(0.285)	(0.137)	(0.162)
2 cases rejected and incorrect	0.673**	0.0770	-0.430**
	(0.303)	(0.167)	(0.215)
3 cases rejected and incorrect	1.036**	-0.284	-0.306
	(0.520)	(0.322)	(0.461)
1 approved case and incorrect	0.193	-0.386***	0.437***
	(0.229)	(0.126)	(0.152)
2 approved cases and incorrect	-0.560	0.0333	0.0151
	(0.559)	(0.238)	(0.280)
3 approved cases and incorrect	0	-0.889	1.123**
	(.)	(0.575)	(0.540)
Constant	-2.889***	1.577***	-2.364***
	(0.586)	(0.316)	(0.378)
Obs	2026	2059	2056
R-squared	0.118	0.0356	0.0283

Robust Standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Notes: Logistic regression. The dependent variable in column 1 is a dummy variable that takes the value of 1 if the respondent changed their support either to Oppose or Strongly Oppose excluding those that do not change their opinion in those categories. The dependent variable in column 2 is a dummy variable that takes the value of 1 if the respondent did not change opinion. The dependent variable in column 3 is a dummy variable that takes the value of 1 if the respondent changed their support either to Favour or Strongly Favour excluding those that do not change their opinion in those categories. The coefficients of 0 appear because there were no observations or insufficient observations in those categories, e.g.: there were no respondents that changed from Strongly Favour to Oppose or Strongly Oppose. Controls include gender, age, education, income, trust in government, respondents that want the government involved in all aspects of life, religion and party affiliation. The reference group is the respondents that were correct in 1, 2 or 3 presented cases.

If in contrast, we look at the respondents that were accurate in assessing whether the case was approved or rejected, we can observe in Table 3.8 that respondents that were right on their belief of either 1 or 2 cases that were rejected are more likely to Change to Oppose or Strongly Oppose with respect to the base references of those that were

incorrect. Respondents that were right in their belief about the rejection of 1 case or in the approval of 1 case were less likely to change their opinion. Those that were correct in assessing that 3 out of 3 cases were approved were more likely to stick to their initial opinion. This respondents were also slightly more likely to change to Favour or Strongly Favour.

To recapitulate, having more approved than rejected cases does not change opinion by itself, it depends on the prior belief that the respondent holds. If they were presented with 3 approved cases and they were correct they are more likely to stick with their initial opinion or, with a low significance, change to favour or strongly favour. If they were presented with 3 cases that were approved and they believed that they were rejected they are more likely to change to favour or strongly favour. When they were presented with 1 approved case and they believed it was rejected, they are more likely to change to favour or strongly favour. On the other hand, when respondents are presented with 1 or 2 cases that were rejected and they are correct, they are more likely to change to Oppose or Strongly Oppose the legalization of assisted suicide. And if they believed incorrectly that 2 or 3 cases were rejected when they were in fact approved, they are more likely to change to Oppose. Therefore, exposure to more approved cases either does not change opinion or reinforces support for the policy, thus our hypothesis H.2 does not hold. While being exposed to rejected cases and being correct or being biased towards rejection of approved cases reinforces opposition to the policy.

3.4 Discussion

In this section we want to understand further why there is so little change in opinion. One hypothesis could be due to the nature of how the information was presented. According to the literature in psychology, consumer research and computation, there is an anchoring bias or confirmation bias when conducting sequential decision-making or when information is presented sequentially, as in our survey experiment (Jonas et al. (2001), Brough et al. (2008), Echterhoff et al. (2022)). It is also important to note that the number of questions between the two instances where the respondent has to state their opinion on assisted suicide differs in each treatment group. The largest number

Table 3.8: Change Opinion by accuracy

	(1) Change to Oppose or Strongly Oppose or Remain	(2) Unchanged Opinion	(3) Change to Favour or Strongly Favour or Remain
3 cases rejected and correct	0.642	-0.112	-0.369
	(0.552)	(0.393)	(0.443)
2 cases rejected and correct	0.783***	0.110	-0.392*
	(0.244)	(0.195)	(0.201)
1 case rejected and correct	0.603***	0.377**	-0.410**
	(0.206)	(0.160)	(0.161)
1 case approved and correct	-0.264	0.320*	0.294
	(0.262)	(0.166)	(0.194)
2 cases approved and correct	-0.242	-0.0315	0.247
	(0.305)	(0.197)	(0.235)
3 cases approved and correct	-0.859	1.310**	1.056*
	(0.779)	(0.573)	(0.615)
Disabled parents	-0.391	0.156	0.538**
	(0.259)	(0.186)	(0.216)
Parents at home	0.888***	-0.571**	-0.709**
	(0.302)	(0.252)	(0.277)
Constant	-2.743***	1.354***	1.709***
	(0.437)	(0.308)	(0.346)
Obs	2059	2059	2059
R-squared	0.1427	0.0352	0.0967

Robust Standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Notes: Logistic regression. The dependent variable in column 1 is a dummy variable that takes the value of 1 if the respondent changed their support either to Oppose or Strongly Oppose or remained in either of those categories, that is, we include respondents that did not change opinion. The dependent variable in column 2 is a dummy variable that takes the value of 1 if the respondent did not change opinion. The dependent variable in column 3 is a dummy variable that takes the value of 1 if the respondent changed their support either to Favour or Strongly Favour including those that do not change their support in those categories. Controls include gender, age, education, income, trust in government, respondents that want the government involved in all aspects of life, religion and party affiliation. The reference group is the respondents that were incorrect in 1, 2 or 3 presented cases.

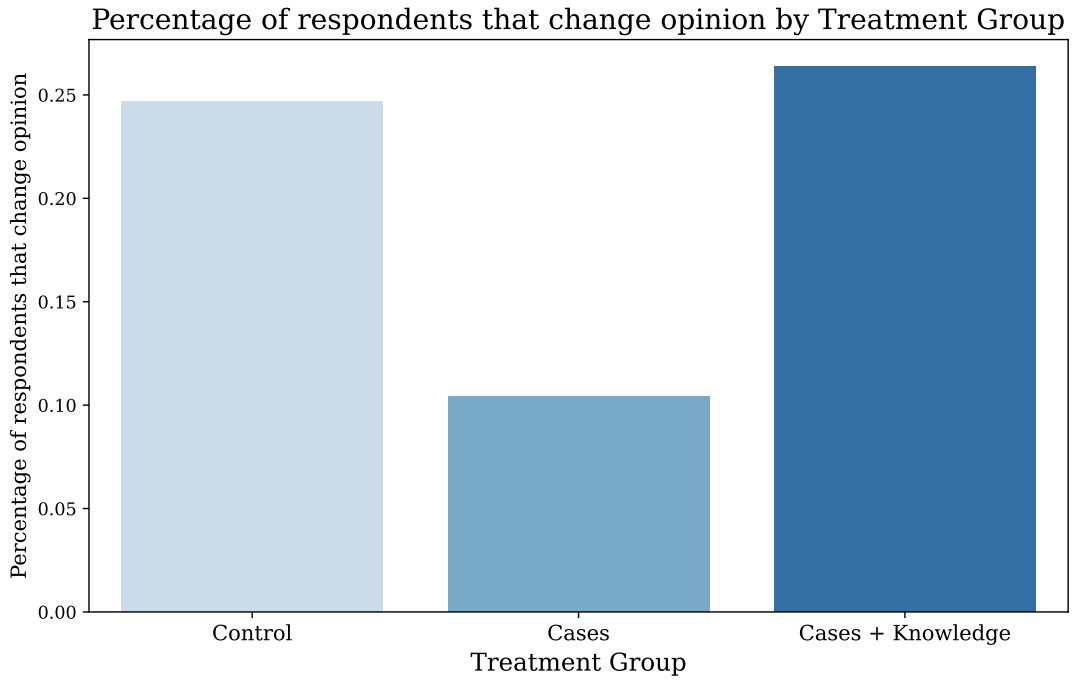

Figure 3.10: Percentage of Respondents that change opinion by Treatment Group

between questions is in the Cases + Knowledge, followed by the Control Group and lastly by the Cases Group. Thus, mechanically, if the consistency preference was the main determinant, we would see the least change in opinion in the Case Group, followed by the Control Group and the largest in the Case + Knowledge Group, which is largely what we find, as we can see in Figure 3.10. However, if we plot the percentage of respondents by Degree of Support and Treatment Group as shown in Figure 3.11, we can see that the consistency preference or anchoring bias does not hold for all categories, specifically, for those respondents that Oppose there is a larger proportion that change opinion in the Control Group than in the Cases + Knowledge Group. Therefore, it seems that the anchoring bias or consistency preference plays a partial role, but does not explain the whole picture.

Another hypothesis that builds on the consistency preference is that respondents do not believe the information presented, maybe they believe that they are being influenced in one direction and then the information backfires, making them less willing to change opinion. In Table 3.9, we explore this possibility by looking at how respondents rate the credibility (from 0 to 100%) of the information presented during the survey. Interestingly,

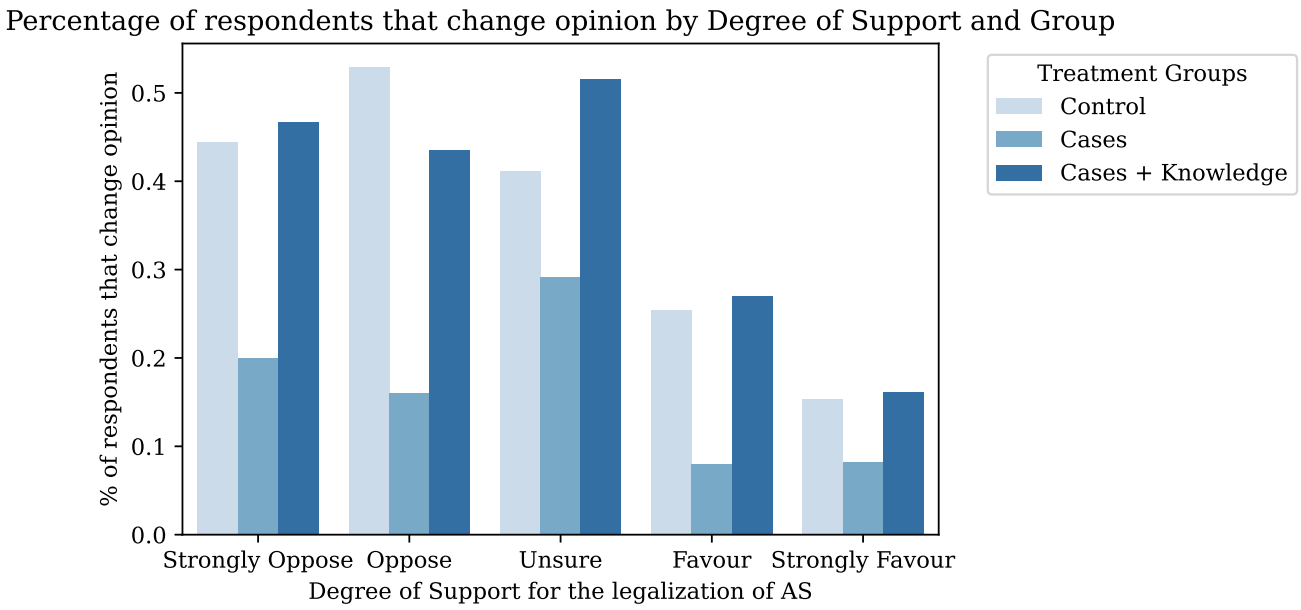

Figure 3.11: Percentage of Respondents that change opinion by Treatment Group

we can see that those respondents that have a higher likelihood of changing their opinion are also the ones that are more skeptical of the credibility of the information presented. In particular, respondents that Strongly Oppose think that the information provided has 17 percentage points lower credibility compared to the base reference of respondents in the Control Group that favour legalization. Respondents that oppose legalization give almost 9 percentage points lower credibility to information, although these respondents increase a little bit their credibility in the Cases Group. Respondents that are unsure give 11 percentage points lower credibility to the information. Respondents that Strongly Favour give a higher rate of credibility than those that favour and it is specially higher for the respondents that Strongly Favour and are in the Cases treatment group, where we see a drop in the respondents that Strongly Favour. Since the bulk of respondents favour or strongly favour legalization and they are the least likely to change their opinion, we see very small changes in opinion.

Table 3.9: Rate of credibility of info by Degree of Support and Treatment Group

	(1)
	Rate of Credible info (%)
Strongly Oppose	-16.85**
	(6.985)
Oppose	-8.708**
	(4.434)
Unsure	-11.37***
	(2.621)
Strongly Favour	3.248**
	(1.592)
Cases	-1.575
	(1.610)
Cases + Knowledge	-0.223
	(1.554)
Strongly Oppose × Cases	2.288
	(9.288)
Strongly Oppose × Cases + Knowledge	0.920
	(10.40)
Oppose × Cases	9.985*
	(5.425)
Oppose × Cases + Knowledge	-1.679
	(5.697)
Unsure × Cases	6.016
	(4.450)
Unsure × Cases + Knowledge	1.077
	(4.113)
Strongly Favour × Cases	4.960**
	(2.251)
Strongly Favour × Cases + Knowledge	2.364
	(2.227)
Disabled parents	2.474*
	(1.298)
Parents at home	4.275**
	(2.136)
Constant	67.18***
	(2.422)
Controls	Yes
Obs	2254
R-squared	0.126

Robust Standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Notes: Linear regression. The dependent variable measures the belief of respondents on the credibility of information provided and it takes the values from 0-no credibility to 100%-full credibility. Controls include gender, age, education, income, trust in government, respondents that want the government involved in all aspects of life, religion and party affiliation.

Another possibility is that the cases presented, are not persuasive enough to induce a change in opinion, we explore this by looking at which cases made change in opinion more likely and in what direction. We construct dummy variables to indicate if the case was presented to the respondent. In Table 3.10, we can see that the cases induce a slight change in opinion, although it is not strongly significant. Cases 13 and 16 make respondents more likely to change to Strongly Oppose or more likely to stick to that position. Whereas, case 10 makes respondents least likely to change to Strongly Oppose or remain in that position. On the other hand, cases 9 and 14 make respondents more likely to change to Strongly Favour or stick to that position. Case 2 makes respondents more likely to change to oppose or stick to that position. Case 17 makes respondents least likely to change to unsure or keep being unsure.

In addition, it could also be that respondents have an initial lack of knowledge on the topic of assisted suicide and since we did not update their beliefs of this knowledge, the real-life cases are not sufficient to make them change their opinion, as they would need a broader picture of how it has been implemented in other countries, who is involved in the procedure, who are the people that request it, what are the limitations and drawbacks that other countries have faced and so on and so forth. To elucidate this, we can check whether respondents that are more knowledgeable are more likely to change their opinion to oppose or to favour. In Table 3.11, we can see that respondents that perceive assisted suicide to be different from suicide are more likely to change to favour or to strongly favour (or to stick to that position). Respondents that are correct in their estimation of the number of deaths by assisted suicide in absolute number of total deaths and as a percentage of total deaths in the Netherlands in 2022 are more likely to strongly oppose and more likely to strongly favour (or to stick to either position), yet the latter effect has very low significance, these respondents are also the ones less likely to favour. Respondents that correctly estimate the approximate cost of the procedure are more likely to favour, although it has very low significance. Respondents that know in which countries assisted suicide policies have been implemented are more likely to change to strongly favour and less likely to change to unsure (or to stick to either position). Finally, respondents that know that the status in Germany of this policy is unregulated rather

Table 3.10: Change in Opinion by case presented

	(1)	(2)	(3)	(4)	(5)
	Change to Strongly Oppose or Remain	Change to Oppose or Remain	Change to Unsure or Remain	Change to Favour or Remain	Change to Strongly Favour or Remain
case_1	-0.222	-0.00999	-0.0219	0.127	-0.124
	(0.327)	(0.225)	(0.234)	(0.117)	(0.129)
case_2	-0.228	0.402*	0.0358	0.0427	-0.151
	(0.325)	(0.207)	(0.214)	(0.117)	(0.126)
case_3	-0.123	0.109	-0.0915	0.133	-0.139
	(0.324)	(0.231)	(0.238)	(0.117)	(0.125)
case_4	-0.246	0.137	0.277	-0.111	0.0198
	(0.341)	(0.234)	(0.204)	(0.118)	(0.124)
case_5	-0.358	-0.0669	0.121	0.0293	-0.00924
	(0.362)	(0.233)	(0.210)	(0.118)	(0.123)
case_6	-0.185	0.0672	-0.291	0.0108	0.0748
	(0.353)	(0.241)	(0.245)	(0.120)	(0.126)
case_7	-0.00616	0.193	0.0283	-0.00741	-0.0383
	(0.314)	(0.227)	(0.219)	(0.117)	(0.126)
case_8	0.0796	-0.0989	-0.0379	0.124	-0.125
	(0.311)	(0.237)	(0.219)	(0.116)	(0.123)
case_9	-0.348	-0.123	-0.121	-0.127	0.242**
	(0.365)	(0.260)	(0.231)	(0.122)	(0.123)
case_10	-0.696*	0.176	-0.133	0.0135	0.0647
	(0.380)	(0.224)	(0.229)	(0.117)	(0.121)
case_11	0.00803	0.00840	-0.0810	0.145	-0.119
	(0.322)	(0.237)	(0.229)	(0.118)	(0.126)
case_12	0.457	0.00825	0.00123	-0.0625	-0.0256
	(0.290)	(0.241)	(0.225)	(0.120)	(0.125)
case_13	0.502*	-0.142	0.216	0.0604	-0.176
	(0.298)	(0.250)	(0.215)	(0.119)	(0.126)
case_14	-0.168	0.257	-0.286	-0.191	0.248**
	(0.342)	(0.220)	(0.242)	(0.120)	(0.121)
case_15	-0.540	0.230	-0.0561	-0.00662	0.0458
	(0.384)	(0.219)	(0.222)	(0.115)	(0.117)
case_16	0.618**	0.110	-0.148	-0.0450	-0.0697
	(0.260)	(0.231)	(0.234)	(0.119)	(0.124)
case_17	0.217	0.132	-0.518**	0.178	-0.137
	(0.282)	(0.218)	(0.259)	(0.117)	(0.124)
case_18	-0.303	-0.145	0.239	0.0458	-0.0664
	(0.349)	(0.251)	(0.206)	(0.117)	(0.122)
Constant	-4.572***	-2.890***	-2.769***	-0.402**	-0.137
	(0.672)	(0.413)	(0.394)	(0.198)	(0.202)
Controls	Yes	Yes	Yes	Yes	Yes
Obs	2999	3095	3076	3095	3087
R-squared	0.1682	0.0791	0.0545	0.0166	0.0592

Robust Standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Notes: Logistic regression. The dependent variable in column 1 is a dummy variable that takes the value of 1 if the respondent changed their support to Strongly Oppose or remained in that category before and after treatment. The dependent variable in column 2 is a dummy variable that takes the value of 1 if the respondent changed their support to Oppose or remained in that category before and after treatment. The dependent variable in column 3 is a dummy variable that takes the value of 1 if the respondent changed their support to Unsure or remained in that category before and after treatment. The dependent variable in column 4 is a dummy variable that takes the value of 1 if the respondent changed their support to Favour or remained in that category before and after treatment. The dependent variable in column 5 is a dummy variable that takes the value of 1 if the respondent changed their support to Strongly Favour or remained in that category before and after treatment. Controls include gender, age, education, income, trust in government, respondents that want the government involved in all aspects of life, religion and party affiliation. The reference group is the respondents that were in the Control Group, that is, those that were not presented with any cases.

than legal or banned are more likely to change to strongly favour and less likely to change to favour (or to stick to either position).

Aside from that, respondents that would have a higher level of trust in health professional if assisted suicide were implemented in Germany are more likely to change to Strongly Favour and less likely to change to unsure or favour. Those that would have a higher distrust if the policy is implemented are more likely to strongly oppose or oppose (or to stick to either position) and least likely to change to favour or to strongly favour legalization.

Table 3.11: Change in Opinion by knowledge

	(1) Change to Strongly Oppose or Remain	(2) Change to Oppose or Remain	(3) Change to Unsure or Remain	(4) Change to Favour or Remain	(5) Change to Strongly Favour or Remain
Suicide and AS are different	-1.195***	-0.652***	-0.629***	0.496***	0.379***
	(0.218)	(0.192)	(0.175)	(0.108)	(0.118)
Correct number of deaths	0.781**	0.255	-0.0423	-0.463***	0.270*
by AS in Netherlands	(0.314)	(0.253)	(0.272)	(0.157)	(0.161)
Correct cost of AS	-0.268	0.115	-0.191	0.144*	-0.0880
	(0.266)	(0.171)	(0.161)	(0.0797)	(0.0868)
Correct countries with AS	0.0749	-0.0180	-0.379***	-0.111	0.223***
	(0.222)	(0.168)	(0.147)	(0.0787)	(0.0855)
Correct legal status	0.304	-0.0761	0.00569	-0.198**	0.215**
	(0.240)	(0.179)	(0.158)	(0.0813)	(0.0863)
Trust in health prof.	0.108	0.0602	-0.0961	0.0489	-0.123
	(0.288)	(0.203)	(0.168)	(0.0980)	(0.105)
Higher trust in health prof.	-0.546	-0.0209	-1.367***	-0.305***	0.698***
after AS is implemented	(0.345)	(0.231)	(0.202)	(0.0833)	(0.0865)
Higher distrust in health prof.	1.826***	2.012***	0.258	-0.549***	-1.187***
after AS is implemented	(0.283)	(0.220)	(0.184)	(0.115)	(0.146)
Constant	-4.485***	-2.939***	-1.745***	-0.492**	-0.692***
	(0.787)	(0.498)	(0.460)	(0.236)	(0.247)
Controls	Yes	Yes	Yes	Yes	Yes
Obs	2999	3095	3076	3095	3087
R-squared	0.305	0.198	0.116	0.0323	0.121

Robust Standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Notes: Logistic regression. The dependent variable in column 1 is a dummy variable that takes the value of 1 if the respondent changed their support to Strongly Oppose or remained in that category before and after treatment. The dependent variable in column 2 is a dummy variable that takes the value of 1 if the respondent changed their support to Oppose or remained in that category before and after treatment. The dependent variable in column 3 is a dummy variable that takes the value of 1 if the respondent changed their support to Unsure or remained in that category before and after treatment. The dependent variable in column 4 is a dummy variable that takes the value of 1 if the respondent changed their support to Favour or remained in that category before and after treatment. The dependent variable in column 5 is a dummy variable that takes the value of 1 if the respondent changed their support to Strongly Favour or remained in that category before and after treatment. Controls include gender, age, education, income, trust in government, respondents that want the government involved in all aspects of life, religion and party affiliation.

It seems like the respondents that favour or strongly favour the legalization of assisted suicide think of assisted suicide as different from suicide. We did not ask them whether they believe that assisted suicide is a complement or substitute for suicide, however, informally, we have heard the argument that assisted suicide would act as a substitute

for suicide. Girma and Paton (2022) specifically look at this possibility in the state of Oregon, where assisted suicide is legal. They find that assisted suicide is not a substitute for suicide, but a complement. The number of suicides do not decrease and the number of assisted suicides increase, mainly because people that would not otherwise be willing to commit suicide are now requesting assistance to suicide, and these people being mostly women and older people.

3.5 Conclusion

We present real-life cases to a representative sample of the German population to assess whether they would change opinion on the legalization of assisted suicide. We observe that the change in opinion is very small, only 21% of our sample changes opinion. However, we find that exposure to real-life cases decreases support on the ends of the distribution, mainly Strongly to Favour. Exposure to cases has a significant impact on changing opinion when combined with respondents' beliefs on cases, predominantly there seems to be a confirmation bias for respondents that favour or strongly favour, when they are correct in believing that the 3 cases presented were approved, they are more likely to stick to favouring or strongly favouring the policy. On the other hand, respondents that were correct in their belief of 1 or 2 rejected cases, they are more likely to oppose or strongly oppose. For the respondents that were not accurate in their belief, we find that if they are biased towards rejection, they are more likely to oppose or strongly oppose, and if they are biased toward approval, they are more likely to change to favour or strongly favour legalization. However, overall, cases seem to make respondents more likely to stick to the initial position and even slightly decrease their support from strongly favour to favour.

We analyze the reason why change in opinion is so low, following previous literature, we hypothesize that there is a preference for consistency, an anchoring bias or confirmation bias, respondents are reluctant to change their opinion once they have stated their position. However, this only seems to partially account for the effect seen, as we also observe that the respondents that more likely would change their opinion (those that oppose or are unsure) believe that the credibility of the information is much lower than those that favour or strongly favour legalization. Individually, the cases do not seem to

be very persuasive to influence in one direction of support, actually, there are more cases that seem to have the opposite effect, they discourage the change in opinion.

We believe it is important to analyze the opinion and the underlying determinants for topics like assisted suicide, since politicians are likely to establish a policy that has significant consequences for the citizens involved.

3.6 Appendix

3.6.1 Detailed description of Cases

Case 1: The patient, a woman in her eighties, was diagnosed with dementia several months before her request. It was likely that she had Alzheimer's disease. The patient was living in an assisted-living facility, but she would have to go into a nursing home as the deterioration progressed. She had seen this at first hand with her late husband, and she did not want this to happen to her. She considered it to be degrading. She informed the physician that if her dementia progressed, she wanted assisted suicide and that she did not want to go to a nursing home. Due to her dementia, she could no longer be independent and could no longer enjoy music. She also became anxious and suspicious and suffered pain due to neuropathy (damaged nerves). The pain on the nerves could not be treated properly as the patient was afraid of taking new medication. She suffered from the lack of purpose, from loneliness and from her dependence on other people.

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Case 2: The patient, a woman in her twenties, was diagnosed with depression and post-traumatic disorder after surviving a terrorist attack six years prior where 32 people were killed and 300 were injured. She had been prescribed with anti-depressants and had to take 11 per day to reduce the panic attacks that she endured. She had gone through several psychologists and had several hospital admissions, but she did not recover from the psychological pain. She had attempted suicide twice after the attack.

She requested assisted suicide for her medically futile condition of unbearable mental suffering. The psychiatrist consulted with an independent psychiatrist that confirmed her mental suffering.

Answer: Approved

Case 3: The patient, a woman in her fifties, was diagnosed with multiple chemical sensitivities, a chronic condition also referred to as an environmental illness or environmental allergies.

Two years before her request, she asked for assistance from the government to find affordable housing free of cigarette smoke and chemical cleaners as her room was not well-equipped for her illness. During the pandemic the cigarette smoke and pot smoke had increased in her building and entered her room through the vents, making her illness worse. She did not receive assistance on housing from the government.

She requested assisted suicide as her living conditions were creating unbearable psychological pain. She did not want to live that way.

Answer: Approved

Case 4: The patient, a man in his sixties, had had several strokes (blood clots that prevent the flow of blood to the brain). He was also diagnosed with Parkison's disease (a degenerative disease that affects the brain and causes unintended or uncontrollable movements that cause difficulty in balance and coordination). This condition is incurable and it gets worse over time.

The patient also stated having pain in his back and neck and having problems in his intestines. He found his situation horrible. He requested assisted suicide due to his condition of pain.

Answer: Rejected

Case 5: The patient, a woman in her eighties, was paralyzed after a stroke (blood clots that prevent the flow of blood to the brain). This caused a change in her quality of life. She could no longer walk and had to go into a nursing home to be cared for. She could no longer enjoy reading a book or going to see plays in the theatre.

She requested assisted suicide and stated that she was breathing, but that she was not living. She had become dependent and she lacked autonomy.

Answer: Rejected

Case 6: The patient, a woman in her eighties, had been diagnosed with neurological problems that gradually incapacitated her to do regular activities. She had also had a stroke (blood clots that prevent the flow of blood to the brain) that made matters worse.

She requested assisted suicide and stated that she dreaded the moment when she will be dependent on others for everything and consider that situation to not be much of a life. She was afraid of ending up on a wheelchair and progressively deteriorating without prospects of never walking again.

Answer: Rejected

Case 7: The patient, a girl aged between 15 and 17, had depression, anorexia, personality disorder, obsessive-compulsive disorder and post-traumatic disorder caused by having suffered two rapes, one in her early teens and another one three years later. After these traumatic experiences, she had been hospitalized several times due to attempting suicide in many occasions. Her attempts to commit suicide entailed decreasing her intake of food and liquids. Doctors had had to induce a coma to be able to feed her through a tube. She moved from institution to institution, from hospital to youth center.

She requested assisted suicide at a clinic for her unbearable suffering. She wanted to be able to rest and stop the pain she was enduring.

Answer: Rejected

Case 8: The patient, a woman in her twenties, had been diagnosed with a neuropathic condition called complex regional pain syndrome a rare disease, when she was nine years old. The disease is a condition that causes persistent severe and debilitating pain, making it unbearable as well as disabling, making it difficult to walk and move normally. She had to use a wheelchair or when the pain was more intense lay in bed. The pain was constant but with different intensities between periods of time.

She requested assisted suicide and expressed that life was not worth living anymore as it was just pain every day, and the expectation was of much worse pain in the future.

Although she had been admitted to a rehabilitation center, she had not experienced significant improvement in her condition.

Answer: Rejected

Case 9: The patient, a boy aged between 12 and 16, was diagnosed with a malignant tumour more than three years before his death. Around a year before his death, it was established that the tumour had metastasised. His condition was incurable. The patient was in a great deal of pain and had hardly any energy; he had become bedridden as a result. The patient discussed everything with his parents and they supported him in his request for assisted suicide.

Answer: Approved

Case 10: The patients, twin brothers in their forties, were deaf since childhood and were diagnosed with a genetic form of glaucoma (an incurable illness) that would render them blind.

They both had difficulty communicating with others as they would only speak through sign language. They could only communicate with each other and their immediate family. They feared not being able to see each other and therefore unable to speak with each other. They feared dependency and unbearable suffering. They also did not want to be moved to an institution of care.

They spoke with their parents and after some discussion, they had their support in requesting assisted suicide.

Answer: Approved

Case 11: The patient, a woman in her seventies, was diagnosed with amyotrophic lateral sclerosis (ALS), also known as motor neurone disease (MND), nine months before her request. Motor neurone disease is a disease of the nervous system which causes muscles to gradually waste away. The condition is incurable.

Her speech deteriorated so that she could hardly communicate, she used a communication app, but she felt it was not like an actual conversation. She also had difficulty swallowing, which created excess saliva and problems while eating. She choked easily and she feared

suffocation. The patient suffered from her physical deterioration, the loss of autonomy, the lack of prospect of improvement in her situation and the real fear of suffocating. She also feared further deterioration. She requested assisted suicide as her suffering was unbearable.

Answer: Approved

Case 12: The patient, a woman in her fifties, two years after her diagnosis had been suffering from intense pain and had lost the ability to walk due to amyotrophic lateral sclerosis (ALS), a degenerative disease of the nervous system that affects the body's mobility and is considered fatal and incurable.

She began to notice a strange feeling in her hand and a weakness in the thumb that made it difficult to hold a pen or grip a computer mouse.

She requested assisted suicide as she stated that she wanted to rest and stop the unbearable suffering. She also feared the worsening of her condition.

Answer: Rejected

Case 13: The patient, a transexual between 30 and 35 years of age, felt unbearable psychological and physical suffering after undergoing a vaginoplasty (the construction of female genitalia). Shortly after the surgery, the patient suffered complications and 14 years later the patient felt constant pain and discomfort.

Patients that undergo this surgery usually describe pain during intercourse and bladder problems. The patient stated that a prescribed cream did not work to relief the pain. The patient requested assisted suicide as there was no improvement.

Answer: Rejected

Case 14: The patient, a man in his fifties, was sentenced to life in prison for several rapes and one murder. After 30 years in prison, he requested assisted suicide stating that he had unbearable psychological suffering due to the life sentence. He described that he could not control his sexual impulses and that he did not feel human in prison. He felt anxious because there was no prospect of him being released as he could not manage his

sexual urges and his condition was incurable. He had been in constant care since his childhood.

The family members of a victim did not support the possibility that the government could grant the assisted suicide request of the patient.

Answer: Rejected

Case 15: The patient, a man in his sixties, had underwent brain surgery at the age of 12 for a non-malignant tumor, this made him hearing impaired, but had a cochlear implant. He was also diagnosed with depression being prescribed with anti-depressants and was highly dependent on his father. After his father's death, he stopped taking the anti-depressants. He also suffered from seizures.

He wanted to live alone, so that he got the help of a brother and neighbour with groceries and banking. Within a month of his request for assisted suicide, the patient was hospitalized as he had been found weak, dehydrated and confused. Doctors feared he might be suicidal. He suffered a stroke and was diagnosed with seizure disorder. He requested assisted suicide as he feared dependency due to loss of hearing and loss of vision, but his family did not support his decision.

Answer: Approved

Case 16: The patient, a transexual between 40 and 45 years of age, suffered from unbearable psychological and physical suffering after undergoing two surgeries for a phalloplasty (the construction of male genitalia). The patient underwent hormone therapy five years prior and had followed the treatments with a mastectomy (removal of breasts). After the surgery the patient expressed aversion at the self-image in the mirror.

The patient had received psychological treatment for six months after requesting assisted suicide. The last surgery had affected vital functions, decreasing the patient's quality of life. He was not diagnosed with depression.

Answer: Approved

Case 17: The patient, a man in his sixties, suffered from abdominal complaints for 25 years. No physical cause was found for his symptoms. The pain grew in intensity and spread to the whole body. About seven years before his request, the patient's abdominal complaints were deemed to be medically unexplained physical symptoms (MUPS).

Four years before his request, the patient suffered from bladder cancer, for which he received treatment. The doctor stated that the treatment was successful, but the patient was convinced that the cancer had widely metastasized. After the bladder cancer diagnosis, he attempted suicide several times and was admitted to a psychiatric institution. After he was discharged, he received treatment for depression. In the final months before his request, the patient was completely inactive and exhibited severe self-neglect. He could no longer stand. At the time of his request, the doctors stated that he was not suffering from major depressive disorders.

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Case 18: The patient, a woman in her nineties, experienced deteriorating health due to several conditions due to her age (geriatric syndromes). They consisted of wear and tear of her joints and bones, shortness of breath, weight loss, sight impairment and cognitive deterioration. The patient also suffered from alopecia universalis (a complete absence of any body hair).

She had suffered psychologically all her life due to her baldness, in part because people had bullied her for it. Her increasing joint problems would make her dependent on others. The fact that she would then no longer be able to keep her baldness a secret was unbearable to her.

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3.6.2 Logistic regression of each category of Degree of Support for the legalization of AS

Table 3.12: Change Opinion by Degree of Support and Treatment Group

	(1) Change to Strongly Oppose or Remain	(2) Change to Oppose or Remain	(3) Change to Unsure or Remain	(4) Change to Favour or Remain	(5) Change to Strongly Favour or Remain
Strongly Oppose	6.376***	1.821***	0.582	-3.971***	-0.104
	(1.226)	(0.699)	(1.100)	(1.066)	(0.805)
Oppose	5.129***	3.416***	1.512**	-3.000***	0
	(1.096)	(0.517)	(0.642)	(0.496)	(.)
Unsure	2.306*	1.761***	3.866***	-2.523***	-2.042***
	(1.232)	(0.485)	(0.418)	(0.332)	(0.733)
Strongly Favour	0.419	-1.211*	-2.195**	-2.992***	3.260***
	(1.417)	(0.641)	(1.046)	(0.217)	(0.227)
Cases	0.786	-0.513	-0.217	1.345***	-1.825***
	(0.918)	(0.513)	(0.483)	(0.242)	(0.331)
Cases + Knowledge	1.459	0.0844	0.816**	-0.0764	-0.190
	(1.136)	(0.404)	(0.397)	(0.178)	(0.215)
Strongly Oppose × Cases	0.334	-0.260	0	-1.569	1.044
	(1.282)	(1.170)	(.)	(1.482)	(1.322)
Strongly Oppose × Cases + Knowledge	-1.111	-0.0622	0.141	0.898	0
	(1.464)	(1.097)	(1.372)	(1.341)	(.)
Oppose × Cases	-4.007***	2.354***	-0.600	-1.988***	0
	(1.220)	(0.788)	(0.958)	(0.758)	(.)
Oppose× Cases + Knowledge	-1.614	0.317	-1.534	0.160	0
	(1.285)	(0.649)	(0.935)	(0.663)	(.)
Unsure × Cases	0	0.235	0.909	-2.469***	1.283
	(.)	(0.759)	(0.645)	(0.655)	(1.314)
Unsure × Cases + Knowledge	-0.216	-0.121	-1.225**	0.402	0.339
	(1.439)	(0.689)	(0.547)	(0.454)	(1.034)
Strongly Favour × Cases	0	0	0.177	-1.984***	2.609***
	(.)	(.)	(1.492)	(0.369)	(0.431)
Strongly Favour × Cases + Knowledge	0	0.457	-0.808	0.143	0.114
	(.)	(0.828)	(1.472)	(0.304)	(0.319)
Disabled parents=1	0.721	0.384	-1.119***	-0.219	0.413*
	(0.528)	(0.323)	(0.371)	(0.192)	(0.227)
Parents living at home=1	0.182	1.302***	0.462	-0.244	-1.043**
	(0.849)	(0.478)	(0.593)	(0.355)	(0.469)
Constant	-8.082***	-3.337***	-3.894***	1.179***	-1.332***
	(1.554)	(0.613)	(0.637)	(0.327)	(0.367)
Controls	Yes	Yes	Yes	Yes	Yes
Obs	1297	1949	2222	2254	2104
R-squared	0.5079	0.4039	0.4333	0.3969	0.5137

Robust Standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Notes: Logistic regression. The dependent variable in column 1 is a dummy variable that takes the value of 1 if the respondent changed their support to Strongly Oppose or remained in that category before and after treatment. The dependent variable in column 2 is a dummy variable that takes the value of 1 if the respondent changed their support to Oppose or remained in that category before and after treatment. The dependent variable in column 3 is a dummy variable that takes the value of 1 if the respondent changed their support to Unsure or remained in that category before and after treatment. The dependent variable in column 4 is a dummy variable that takes the value of 1 if the respondent changed their support to Favour or remained in that category before and after treatment. The dependent variable in column 5 is a dummy variable that takes the value of 1 if the respondent changed their support to Strongly Favour or remained in that category before and after treatment. Controls include gender, age, education, income, trust in government, respondents that want the government involved in all aspects of life, religion and party affiliation. The reference group is the respondents that were incorrect in 1, 2 or 3 presented cases.

Chapter 4

Delegation or Takeover of Decision rights: Gains or Losses

4.1 Introduction

There is a growing literature that looks at the intrinsic value of decision rights (Bartling et al. (2014), Bobadilla-Suarez et al. (2017), Freundt et al. (2023), Meemann (2023)) and all seem to find a positive value of decision rights. In all these papers, they frame the choice as a delegation decision, such that respondents have always the opportunity to state whether they would like to exercise their right to choose for themselves. In contrast, we see that many individuals in society would like the government to be more involved in certain aspects of their life, like setting the amount of pension that they will receive when they retire, as a grantor of rights like the right to have a home or a good standard of living or just by restricting the food that they can consume. Namely, there are a non-negligible share of individuals that want to delegate to the government their decision rights in many areas [1].

We can anecdotally see this by the increase in the policies implemented by the government that are approved to correct for the internalities (biases, wishes, desires) of the individual[2], instead of externalities, which was the main function of the government when the institution was created. This type of polices are sometimes called paternalistic

[1] In Sainz Villalba and Konrad (2024), we find that almost 30% of respondents want more regulation on pensions and 40% are satisfied with the current regulation. We have also seen across different surveys we conducted that there are between 30% to 48% of people that would like the government to be involved in almost all or all aspects of life.

[2] As shown by the inclusion in several governments of the offices of "Nudge" Units, like The Office of Information and Regulatory Affairs in the US or the Behavioural Insights Unit in the UK, https://blogs.worldbank.org/developmenttalk/nudge-units-where-they-came-and-what-they-can-do

policies. A paternalistic policy is defined as a policy that influences or restricts the behavior of the individual to enhance the well-being of such individuals (benevolence principle, Dworkin (1972), Dworkin (2017), Sunstein and Thaler (2003)).We can also see it empirically, in Konrad and Simon (2021), they find a significant share of the population that want the government to intervene more in topics of food, buildings, cars, bicycles, etc. This apparently creates a contradiction, on the one hand the studies mentioned find that individuals value decision rights and do not want to delegate decision, but on the other hand there are individuals wanting to delegate important decisions that impact their life to the government (Buchanan (2005)). This presumed contradiction might be due to other factors that are not taken into account in these studies, such as the fact that there are always externalities in individual decisions and therefore individuals themselves internalize them and want the government to solve for them. As found in a survey conducted by Sainz Villalba and Konrad (2024), individuals that had higher financial and pension knowledge wanted less intervention from the government in their pension decisions, but wanted more for the population as a whole, thus resulting in a higher approval of intervention from the government in that topic.

Even if individuals are thinking about others when supporting a government policy that would interfere in their decision rights, there is another possibility for the apparent contradiction and that is that there is a difference between instrumental value and the intrinsic value of decision rights. Intuitively, we might think that if there is an intrinsic value of a decision right, the instrumental value might be even higher, since the consequences of the decision might be even more acute, however, in the psychological literature they have found that there might be an avoidance of responsibility when deciding over undesirable outcomes and in fact, individuals are more likely to attribute good outcomes to themselves as well as to others and bad outcomes to luck or external factors (El Zein and Bahrami (2019), Jaquiery and El Zein (2021)). Even more, Devine et al. (2024) find that the preference for free choice diminishes when the choice is decoupled of the outcome, suggesting that there is more an instrumental value to choosing than an intrinsic value. In Bobadilla-Suarez et al. (2017), they find that respondents are more willing to repeat the gains block much more than the losses block

and this might be indicating that there is a responsibility avoidance over undesirable outcomes. The literature has focused much more on the avoidance of responsibility when choosing for others, in Leonhardt et al. (2011), they find that people take more risks when choosing for themselves than when choosing for others, because they do not want to be blamed for the undesirable outcomes. Nevertheless there has been some papers that have looked at blame shifting as a motive for delegating a decision, when that decision impacts the individual itself (Freer et al. (2023)).

In this research paper we want to investigate the responsibility avoidance when faced with uncertain gains or uncertain losses. As mentioned before, some papers show that the attribution of responsibility takes place when there are favourable outcomes, while there is an avoidance of responsibility when the outcome is unfavourable. We conduct an experiment where we elicit the willingness to pay (WTP) for ensuring that the choice of a lottery is realized in the domains of gains or losses, by presenting a group of respondents with lotteries over gains and another group lotteries over losses. We also introduce three different framings to see whether making the restriction of choice more salient makes a difference. In the Control Group, we elicit respondents' WTP for the selected lottery in a binary choice, with the alternative being that one of the two lotteries will be chosen, without specifying how this will be done. In the Delegation Group, the framing is introduced by stating that they can either delegate their decision or not and we again elicit the WTP for the selected lottery, there is a soft restriction on choice in this case, as they have to decide whether to choose for themselves or not. In the last treatment group, Takeover Group, the framing changes so that they are told that the default is that a Third-party will choose for them unless they buy the decision right to ensure that their selected choice of lottery will be realized, in other words, they can takeover the decision right or not, there is a strong restriction on choice as the default is that they are unable to choose unless they pay. To the best of our knowledge there is no paper that looks at how the different framings of having the exclusion of choice as a default vs the delegation of choice affects the value attached to the decision right. There is a paper Gneezy et al. (2020) that looks at the importance of having agency in the formation of preferences, even when the agency is not exercised. These

emphasizes how the framework is key to make respondents more or less willing to decide over costly and consequential choices.

Our main research questions are:

- Does the value of agency (measured in WTP) increase when faced with uncertain gains rather than uncertain losses? (H.1)
- Does restriction on choice (the different framings) increase the WTP in gains? Does restriction on choice decrease the WTP in losses? (H.2)

We hypothesize that the respondents that will have the highest WTP are the ones in the Delegation treatment on the gains domain, since in this case they will be able to claim responsibility for the favourable outcome more than in the Control Group and the Takeover Group, because in the Control Group there is no mention of another agent being involved in the outcome and because in the Takeover Group, they can use the external intervention as an excuse to claim that they had no control over the decision and the consequence, making the avoidance of the decision more prominent. In comparison, we hypothesize that the lowest WTP will be for the respondents in the Takeover Group in the losses domain, as they have a greater opportunity to attribute the undesirable outcome to the third-party agent. In detail, we hypothesize that the WTP comparison would be as follows:

$$WTP\_gain\_Delegation > WTP\_gain\_control > WTP\_gain\_takeover >$$
$$WTP\_loss\_control > WTP\_loss\_Delegation > WTP\_loss\_takeover$$

In other words, respondents would like to attribute the responsibility to themselves when it is advantageous (in the gains domain), while they want to avoid responsibility when it is unfavourable (in the losses domain). Moreover, they would like to attribute responsibility when the default is they have to choose themselves competing with a third-party agent (Delegation) than when there is no mention of a third-party agent (Control) or when the default is that the third-party agent chooses (Takeover).

We find that there is no difference in WTP between gains and losses, as was found in Bobadilla-Suarez et al. (2017) and Meemann (2023), where they present both gains and

losses to all respondents. But we do find an effect of the framing, particularly, respondents are less willing to pay when faced with a Delegation decision and even less willing to pay when faced with a Takeover decision. This result seems to indicate that there is a decision avoidance instead of a responsibility avoidance.

This paper is organized as follows, in section 2 we explain the data used and the design of the experiment, in section 3 we show the main results, in section 4 we discuss the findings and in section 5 we conclude.

4.2 Data and Design

We conducted the experiment in July 2024, collecting data for 1013 respondents. We can see the descriptive statistics of our sample in Table 4.1, the mean respondent is 46 years old, with an income between 2500 euros and 4000 and with a high school education.

Table 4.1: Summary statistics of Demographic characteristics

VARIABLES	Mean	Sd	Min	Max
Female	0.323	0.468	0	1
Age	46.48	14.21	19	79
Income	3.049	1.744	1	7
Education	3.019	0.893	1	4

Notes: Female is a dummy variable that takes the value of 1 if the respondent is a woman. Income is a categorical variable that takes values from 1 to 7, where 1 means incomes less than 1500€ per month, 2 means income between 1500 to 2500€, 3 means income between 2500 and 4000€, 4 means income between 4000-5000€, 5 means income between 5000 and 6000€, 6 means income between 6000 and 7000€, and 7 means more than 7000€. Education is a categorical variable that takes values from 1 to 5, where 1 corresponds to No schooling, 2 corresponds to Hauptschule o.ä, 3 corresponds to Mittlere Reife, 4 corresponds to Abitur o.ä (High School), and 5 corresponds to Hochschul/Fachhochschulabschluss o.ä (University).

We programmed the experiment in otree (Chen et al. (2016)), it took an average of 15 minutes for respondents and it was distributed by the company Bilendi & Respondi. The main dependent variable is the willingness to pay of respondents to guarantee that the lottery they chose would be realized and payed out. The willingness to pay could be from 0 to 60 points, with an exchange rate of 100 points to 5 euros.

Our experiment consisted of eliciting the willingness to pay of respondents in three different groups (See details of experiment in Appendix 4.6.1). In the Control Group, we just presented respondents with a binary choice of lotteries, and asked them how much they were willing to pay so that they could ensure that their choice was realized. In the Delegation Treatment Group, we presented respondents with the same lotteries as in the Control Group, but in this case they could either delegate choice or retain choice by stating their willingness to pay to have their choice realized. Finally, in the Takeover Group, the default was that they were not able to choose, unless they stated their willingness to pay to buy the decision rights, to have their choice realized. Therefore, in all three groups, the willingness to pay is measuring how much they value the possibility of having their preferred choice be realized. To see whether past gains or losses would influence their choice, we present respondents with four rounds of binary lottery choices. For the final payoff, one round was randomly selected and payed out.

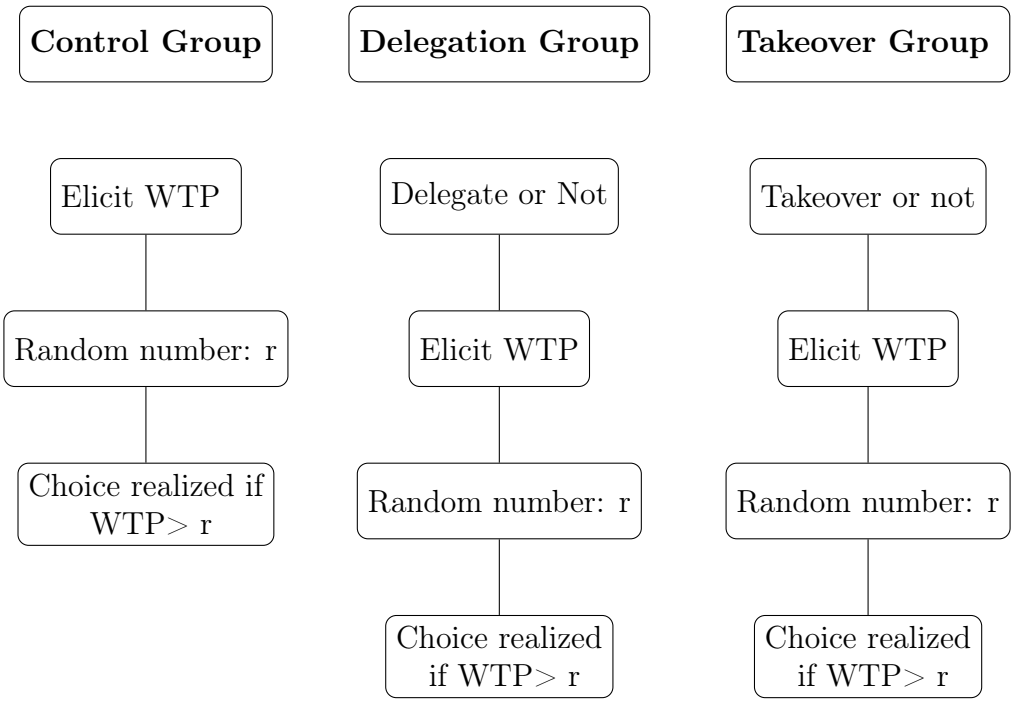

Figure 4.1: Diagram of Treatment groups

In Figure 4.2, we show how the choice was selected in each of the treatment groups. As we stated before, the determinant factor for having the preferred choice be selected was the willingness-to-pay. In the Control Group, if the WTP was higher than a random number and the respondent had selected Lottery A, then Lottery A would be realized

in the final payoff. If, in contrast, the WTP was lower than this random number, then the alternative Lottery B would be realized if the respondent is in the subgroup where the position is to oppose the respondent, or A would be chosen if the respondent is in the subgroup where the position is to be aligned with the respondent. We included this variable to see whether favoring or being against the selected choice of the respondent changed the WTP and to make the Control Group comparable with the Delegation and Takeover Group, since the WTP stated would be the value attributed by the respondent to their preferred choice.

For the Delegation Group, respondents can state whether they want to delegate or not and they have to specify the WTP to ensure that their choice will be selected. As in the Control Group, if the WTP is higher than a random number, their choice will be selected, in our example Lottery A. If the WTP is lower then a Third-party chooses and depending on whether it favours or opposes the choice selected by the respondent, it will choose Lottery A or Lottery B, respectively. In this treatment group, there is an additional consideration, since the respondents that state that they want to delegate would automatically have their choice selected by the Third-party that would choose the lottery that had been chosen by the respondent if it is in the aligned group (favouring) or choose the opposite if it is in the opposed group (against).

In the Takeover Group, the procedure is similar, just that by the default, the Third-party chooses, and the respondent will only have the ability to choose, by buying the decision right, that is stating a WTP higher than a random number, so that their preferred choice is selected (Lottery A in the example). If the WTP is lower than a random number or the respondent has stated that it does not want to buy the decision right, then the Third-party will choose the same lottery as the respondent if it is in the align subgroup (Lottery A in the example) or choose the alternative lottery if it is in the oppose subgroup (Lottery B).

Within each of these three treatment groups, we split the respondents into two domains: gains or losses, as in our research questions we want to see whether the willingness to pay is lower in losses than in gains. The gains or losses presented are symmetric, that is, in the end, the outcome is the same in the two domains, since we cannot make respondents have

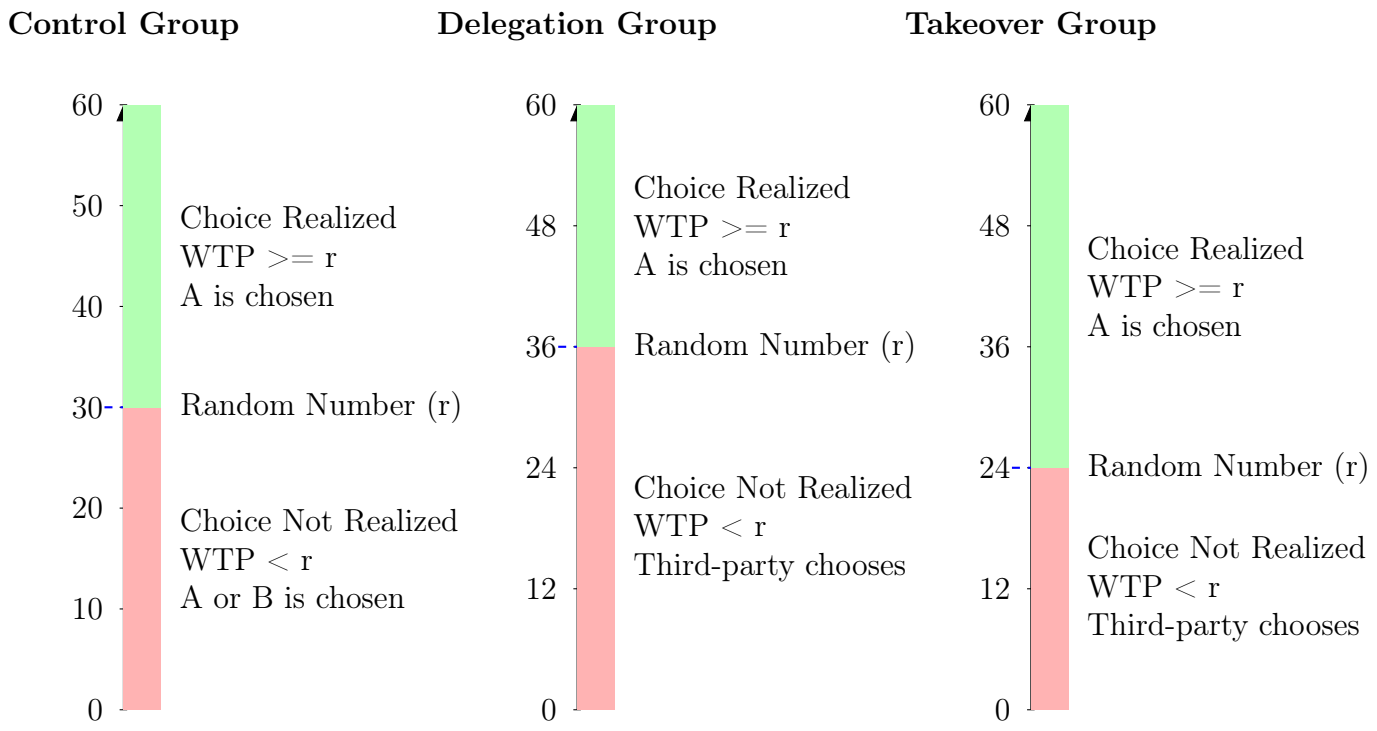

Figure 4.2: Diagram of Mechanism for Payout by Treatment Group (if A is the preferred choice) with different random numbers

actual losses (Table 4.2). Unlike other experiments that mix gains and losses (Bobadilla-Suarez et al. (2017), Meemann (2023)), we present respondents with either gains or losses, exclusively, as we wanted to minimize the impact of loss aversion and make them not aware of the fact that the outcomes are equivalent in both domains. We constructed the outcomes of the lotteries so that there was no stochastically dominated lottery between the pairs.

Table 4.2: Lottery Outcomes Across Rounds

	Gains Block				Losses Block (Safe amount : 150)			
	Lottery A		Lottery B		Lottery A		Lottery B	
	0.3	0.7	0.5	0.5	0.3	0.7	0.5	0.5
Round 1	70	20	50	40	-80	-130	-100	-110
	1	0	0.54	0.46	1	0	0.54	0.46
Round 2	60	0	100	40	-90	-150	-50	-110
	0.45	0.55	0.6	0.4	0.45	0.55	0.6	0.4
Round 3	140	40	100	80	-10	-110	-50	-70
	1	0	0.5	0.5	1	0	0.5	0.5
Round 4	40	0	70	20	-110	-150	-80	-130
Willingness-to-pay: 0 to 60 points								

Notes: The first row indicates the probabilities of each outcome (shown in the second row of each round). The exchange rate of points to euros was 100 points = 5 euros. The Losses Block is equivalent to the Gains Block, it is obtained by substracting the outcomes of the gains block to the safe amount of 150 points.

In Table 4.3, we can see that the control and treatment groups are balanced across the demographic characteristics and are not statistically different from each other, this shows that the randomization into the treatment groups was successful. There are 380 respondents in the Control Group, 366 respondents in the Delegation Group and 367 respondents in the Takeover Group.

Table 4.3: Comparison of Demographic Characteristics Across Treatment Groups

Characteristic	Mean-Control	Mean-Delegation	Mean-Takeover	Sig DvsC	Sig TvsC
age	46.26	47.37	45.82	ns	ns
female	0.29	0.35	0.32	ns	ns
education	3.03	2.99	3.04	ns	ns
income	3.09	3.02	3.03	ns	ns

Notes: T-tests comparing the differences in demographic characteristics between the Treatment Groups and the Control Group.

When we look at the distribution of WTP of respondents pooling all rounds 4.3, we can see that the average WTP is 29 points, that is almost half of the endowment available to respondents, we can also see that there are a significant group of respondents that have a WTP of zero and also a significant amount of respondents that have a WTP of 60, which

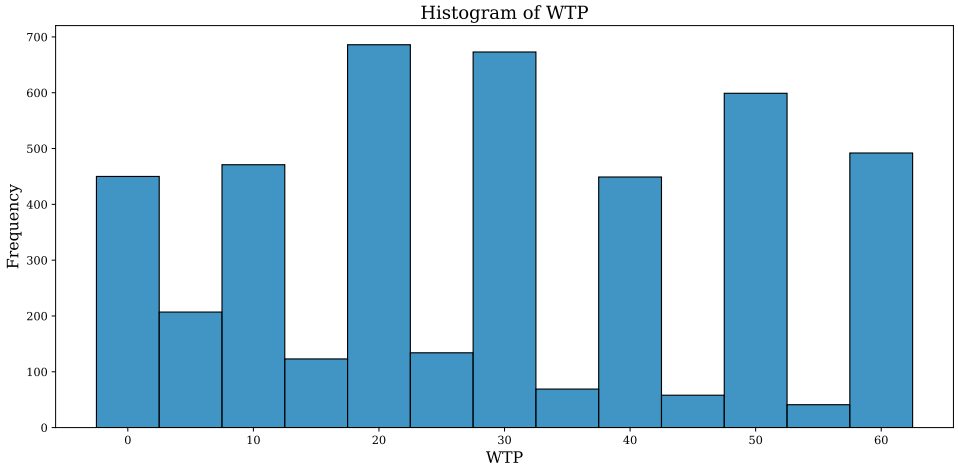

Figure 4.3: Histogram of Willingness-to-pay across all 4 rounds

Notes: The willigness-to-pay goes from 0 to 60 points, with a conversion rate of 5 euros to 100 points. The bins increment by 5 points.

is the total amount they are able to spend. It is also interesting to note that respondents WTP lie on the round numbers 10, 20, 30, etc.

4.3 Results

When we look at whether the WTP between domains was different or not in Figure 4.4, we find that the average WTP is almost the same (the red points), therefore our hypothesis that respondents would have a higher willingness to pay in gains than in losses (H.1) does not hold. Interestingly, we can see that there seems to be a higher WTP in losses, and this is due to the fact that there are more respondents that set a zero willingness-to-pay in gains than in losses, however, this difference is not significant as seen in Table 4.4.

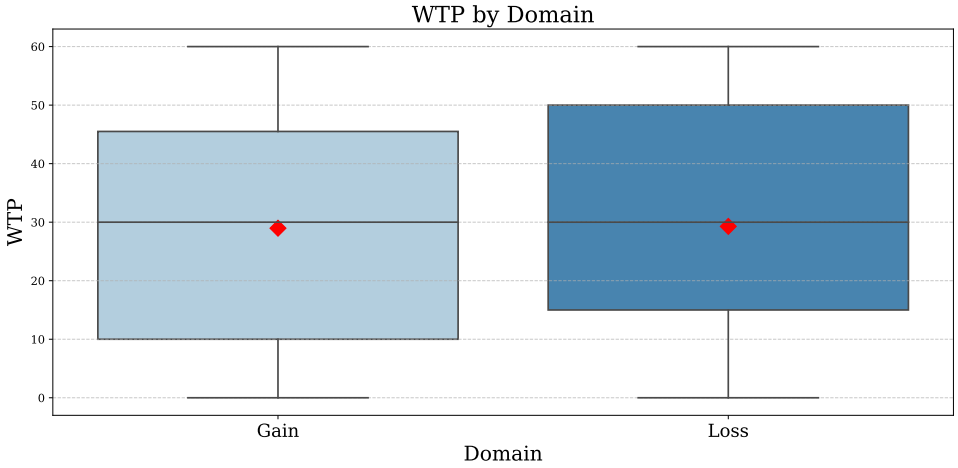

Figure 4.4: Boxplot of WTP between domains: gains or losses

Notes: Boxplot of WTP across all rounds by Domain, showing the minimum, the maximum, the 25th quartile, the median (in white) and the 75th quartile. The averages appear as the red diamonds.

In Table 4.4, we conduct a linear regression of WTP with round fixed effects and clustered standard errors at the respondent level, as well as some control measures [3]. These results support what has been shown in the previous figures, domain does not affect the WTP.

Table 4.4: WTP by Domain

	(1)
	WTP
Loss domain	-0.353
	(0.916)
Constant	25.91***
	(2.630)
Controls	Yes
Obs	4452
R-squared	0.123

Robust Standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Notes: Linear regression. Controls used: sex, age, education, income, external locus of control, internal locus of control, avoidance of responsibility, choice premium, risk preference, compound aversion, ambiguity aversion, illusion of control, trust in government, preference for big government and party affiliation. There are also round fixed effects and cluster standard errors at the respondent level. Base reference is the respondents in the gain domain.

[3] We include sex, age, education, income, external locus of control, internal locus of control, avoidance of responsibility, choice premium, risk preference, compound aversion (as used in Meemann (2023)), ambiguity aversion (as used in Meemann (2023)), illusion of control (as used in Meemann (2023) and Bartling et al. (2014)), trust in government, preference for big government and party affiliation.

To see whether restriction on choice affects the WTP, specifically, whether a higher restriction decreases WTP for either gains or losses, we plot the average WTP by treatment group in Figure 4.5. It seems that the higher the restriction on choice, the lower the WTP, so it partially confirms what we hypothesized, since it looks like the WTP decreases independently of the domain. Introducing a third-party agent seems to reduce the value given to the preferred choice, independently of domain, so it seems that there is no responsibility avoidance, but a decision avoidance, since both in the Delegation and the Takeover group there is an additional decision to be made.

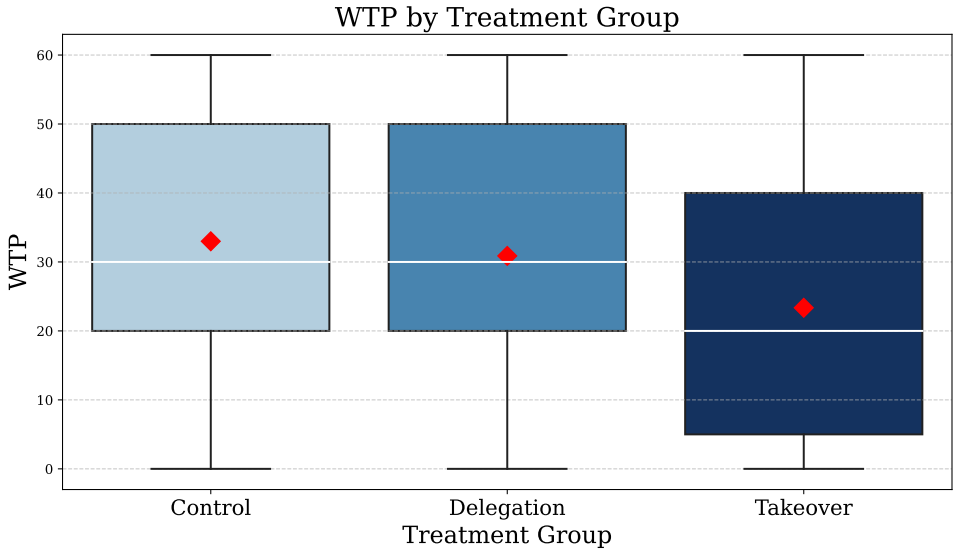

Figure 4.5: Boxplot of WTP by Treatment Group

Notes: Boxplot of WTP across all rounds by Treatment Groups, showing the minimum, the maximum, the 25th quartile, the median (in white) and the 75th quartile. The averages appear as the red diamonds.

By looking at the same figure by treatment and domain, we can confirm whether our H.2 holds or not. We find in Figure 4.6 that the WTP decreases with a higher restriction on choice, independently of domain, and in fact, we can see that in the Losses domain and the Delegation Group, the WTP is very similar to the WTP in the Control Group. As shown before, domain does not seem to play a role in the WTP. We find that respondents only delegate 7% of the time and stick to the default of a third-party agent choosing in the Takeover Group 15% of the time. 93% of the sample states a strictly positive WTP.

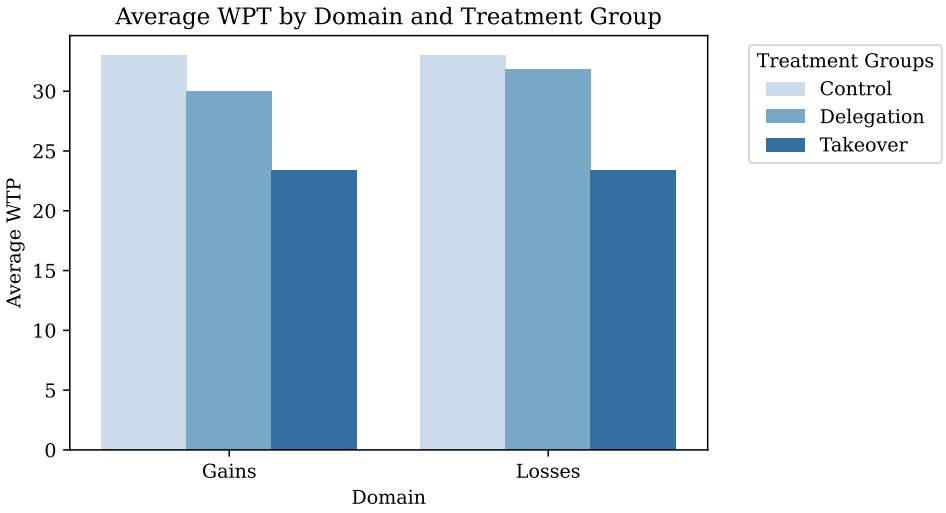

Figure 4.6: Average WTP by Treatment Group and Domain

Notes: Average WTP by Domain and Treatment Group across all rounds. The y-axis represents the points payed by respondents on average.

In Table 4.5, we confirm that there is a decreasing WTP by treatment group, specifically, in the Delegation Group the WTP is 3 points less and in the Takeover treatment the WTP is 9 point less compared to the WTP in the Control Group and gains domain. As stated before, there is no significant difference between domains [4].

4.4 Discussion

We have concluded that the domain does not play a role in changing the WTP for the preferred choice. However, we have found that respondents are less willing to pay in the Delegation and Takeover group. This seems to contradict what has been found in the literature, mainly that individuals are less keen to be responsible for undesirable outcomes (Botti and Iyengar (2006), Wang et al. (2021)), in our experiment, the losses domain. Nonetheless, if we look at the satisfaction of choice selection in Table 4.6, where 1 corresponds to very unsatisfied (column 1), 2 corresponds to unsatisfied (column 2), 3 corresponds to neither satisfied or unsatisfied (the reference category), 4 corresponds to satisfied (column 3) and 5 corresponds to very satisfied (column 4), we can observe that there is more dissatisfaction in the losses domain. It also seems that satisfaction

[4] When we conduct a tobit panel regression with random effects to account for the censored dependent variable between 0 and 60 and the heterogenity of the respondents, we find similar results, see Table 4.9

Table 4.5: WTP by Domain and Treatment Group

	(1)
	WTP
Delegation Group	-3.174**
	(1.469)
Takeover Group	-9.180***
	(1.582)
Loss domain	-0.527
	(1.426)
Delegation Group × Loss domain	1.574
	(2.094)
Takeover Group × Loss domain	-0.173
	(2.178)
Constant	29.48***
	(2.633)
Controls	Yes
Obs	4452
R-squared	0.166

Robust Standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Notes: Linear regression. Controls used: sex, age, education, income, external locus of control, internal locus of control, avoidance of responsibility, choice premium, risk preference, compound aversion, ambiguity aversion, illusion of control, trust in government, preference for big government and party affiliation. There are also round fixed effects and cluster standard errors at the respondent level. Base reference is the respondents in the gain domain and the control treatment group.

does not change very much between treatment groups, although, there is a little bit more satisfaction in the Delegation Group.

Another thing to point out is that there seems to be more satisfaction in round 2 and slightly more satisfaction in round 3. As seen in Figure 4.7, we also confirm that there is higher WTP in these two rounds. We perform a linear regression for the subset of the second and third round to see whether we can explain the increase in WTP. We get the same results as before, the change in the WTP appear to be coming from the parameters in these rounds, in particular that the expected value is slightly higher and that there is a safe amount that would cover the cost of ensuring the preferred choice.

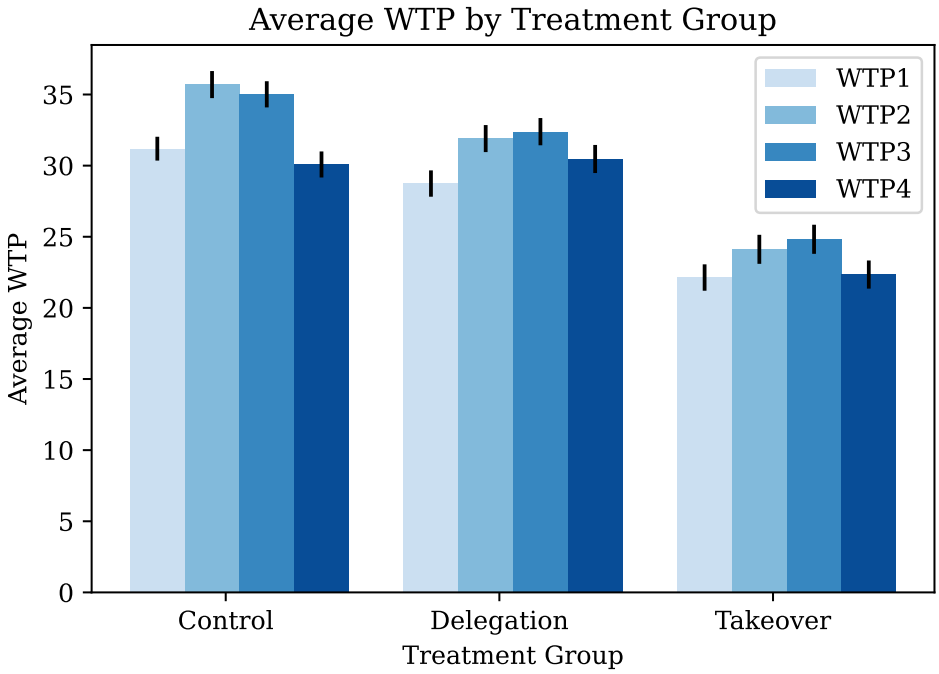

Figure 4.7: Average WTP by Treatment Group and Round

Notes: Average WTP Treatment Group and round. The y-axis represents the points payed by respondents on average.

When we subset for the respondents that did not violate the independence axiom in Table 4.8, we observe that the WTP differences between the Control Group and the Delegation Group disappear, while the differences between the Control Group and the Takeover Group remain. There were 322 respondents that violated the independence axiom, a 30% of the sample. We look at this subsample to see whether the differences in the treatment groups are driven by this violation, since we would presume that the expected utility

Table 4.6: Multinomial Logit of Satisfaction of Choice

	1v3	2v3	4v3	5v3
Delegation Group	0.5186	0.5721*	0.3749**	-0.0419
	(0.3751)	(0.2251)	(0.1310)	(0.1696)
Takeover Group	-0.1602	0.5205*	0.3078*	-0.0136
	(0.4351)	(0.2284)	(0.1276)	(0.1654)
Loss domain	0.7302*	1.1570***	-0.5405***	-1.0436***
	(0.3444)	(0.2046)	(0.1390)	(0.1913)
Delegation Group × Loss domain	-0.1692	-0.5179	-0.2181	-0.3402
	(0.4447)	(0.2729)	(0.1960)	(0.2877)
Takeover Group × Loss domain	0.9275	-0.4822	-0.1341	0.1828
	(0.5007)	(0.2782)	(0.1982)	(0.2674)
round=2	0.0319	0.0614	0.3673***	0.7917***
	(0.2450)	(0.1403)	(0.1096)	(0.1494)
round=3	-0.0402	-0.1332	0.2239*	0.3494*
	(0.2372)	(0.1419)	(0.1081)	(0.1542)
round=4	0.3906	0.0480	0.0376	0.3714*
	(0.2217)	(0.1376)	(0.1109)	(0.1536)
Constant	-4.3612***	-1.8373***	-1.2878***	-1.4347***
	(0.6325)	(0.3566)	(0.2522)	(0.3598)
Controls	Yes	Yes	Yes	Yes
Pseudo R-Squared	0.1384	0.1384	0.1384	0.1384
N	4452	4452	4452	4452

Notes: Multinomial Logit regression. Dependent variable is the satisfaction of the choice selected. 1 corresponds to very unsatisfied, 2 corresponds to unsatisfied, the base reference 3 corresponds to neither satisfied or unsatisfied, 4 corresponds to satisfied and 5 corresponds to very satisfied. Controls used: sex, age, education, income, external locus of control, internal locus of control, avoidance of responsibility, choice premium, risk preference, compound aversion, ambiguity aversion, illusion of control, trust in government, preference for big government and party affiliation. There are also round fixed effects and cluster standard errors at the respondent level. Base reference is the respondents that are neither satisfied or unsatisfied in the gain domain and the control treatment group.

Table 4.7: WTP by Domain and Treatment Group for Rounds 2 and 3

	(1)	(2)
	WTP in Round 2	WTP in Round 3
Delegation Group	-5.145***	-3.820**
	(1.921)	(1.823)
Takeover Group	-11.59***	-10.00***
	(2.004)	(1.960)
Loss domain	-3.084*	-2.311
	(1.821)	(1.836)
Delegation Group × Loss domain	2.912	1.856
	(2.578)	(2.613)
Takeover Group × Loss domain	1.443	0.671
	(2.684)	(2.759)
Constant	36.34***	34.45***
	(3.252)	(3.301)
Controls	Yes	Yes
Obs	1113	1113
R-squared	0.190	0.155

Robust Standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Notes: Linear regression. Controls used: sex, age, education, income, external locus of control, internal locus of control, avoidance of responsibility, choice premium, risk preference, compound aversion, ambiguity aversion, illusion of control, trust in government, preference for big government and party affiliation. There are also round fixed effects and cluster standard errors at the respondent level. Base reference is the respondents in the Control Group and gain domain.

maximizers would have no difference in the willingness-to-pay across groups Machina (1983). However, since we still find a significant difference between the Takeover and the Control Group, it seems that the differences seem to stem from other factors which could be more related to decision avoidance than to responsibility avoidance. In particular, since there are some differences between rounds, it seems that the parameters in each round play a significant role and that the decision avoidance could be related to the size of the expected return. With higher stakes maybe the decision avoidance would be reduced and we could actually observe responsibility avoidance between domains.

Table 4.8: WTP by Treatment Group and Domain for respondents that do not violate the independence axiom

	(1)
	WTP
Delegation Group	-2.885
	(1.826)
Takeover Group	-8.359***
	(1.868)
Loss domain	1.912
	(1.697)
Delegation Group × Loss domain	-0.737
	(2.605)
Takeover Group × Loss domain	-1.727
	(2.592)
Constant	23.56***
	(3.111)
Controls	Yes
Obs	3164
R-squared	0.173

Robust Standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Notes: Linear regression. Controls used: sex, age, education, income, external locus of control, internal locus of control, avoidance of responsibility, choice premium, risk preference, compound aversion, ambiguity aversion, illusion of control, trust in government, preference for big government and party affiliation. There are also round fixed effects and cluster standard errors at the respondent level. Base reference is the respondents in the Control Group and gain domain.

4.5 Conclusion

We found that the framing of a binary lottery choice influences respondents willingness-to-pay to ensure that the lottery they selected was realized. Just introducing a Delegation framework when respondents have to decide to delegate or not induces respondents to decrease their willingness to pay, furthermore this willingness to pay decreases further when setting the binary choice problem as a Takeover framework, that is, that by default the decision right resides in a Third-party and they have to buy the decision right to be able to ensure that their choice is selected. These findings appear to be independent of domain, so that there is no smaller willingness to pay in losses than in gains as hypothesized. This result is supported by similar findings in related literature. Therefore, it seems that the underlying factor that might be at play is decision avoidance and not responsibility avoidance.

Our results might be dependent on the fact that the expected values of the lotteries where pretty small, as the average payoff was 2.5 euros, thus this is a limitation. However, it seems that increasing the stakes, as shown in rounds 2 and 3, does not alter the difference between treatments, so that the baseline effect still remains. Decision avoidance might be higher when the stakes are small as in our experiment. Further research is required to disentangle decision avoidance with responsibility avoidance when it pertains to consequences that will affect the individual only.

Interestingly, we do find a difference between the satisfaction of respondents when faced with gains and faced with losses. The dissatisfaction is higher when faced with losses, but this difference does not translate in differences of WTP. This result is supported by the findings in other papers that investigate differences between gains and losses.

The fact that the framing is sufficient to make respondents increase their decision avoidance should raise questions on how defaults and other government policies that are set up, might lead individuals to disengage in matters that are very consequential to their living conditions.

4.6 Appendix

4.6.1 Details of the experiment

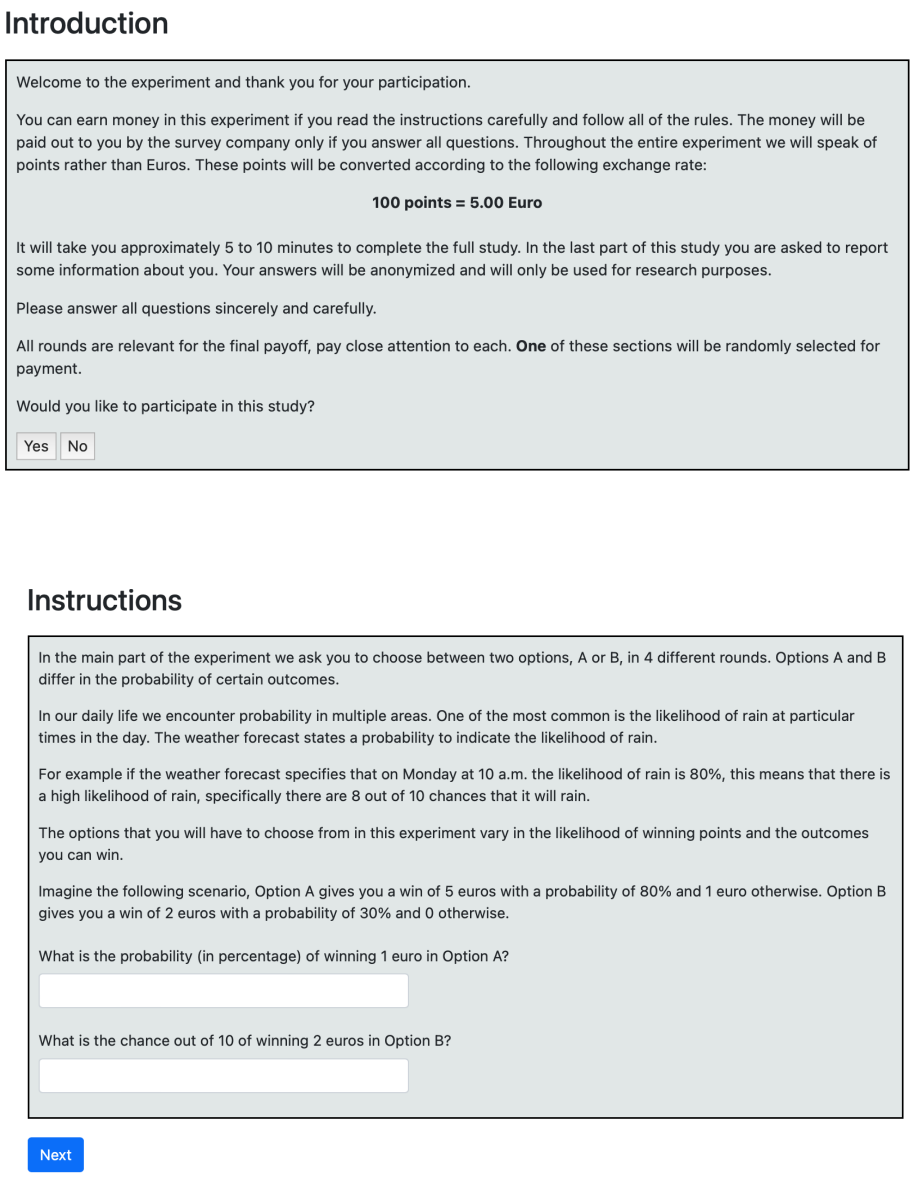

Figure 4.8: Instructions of experiment

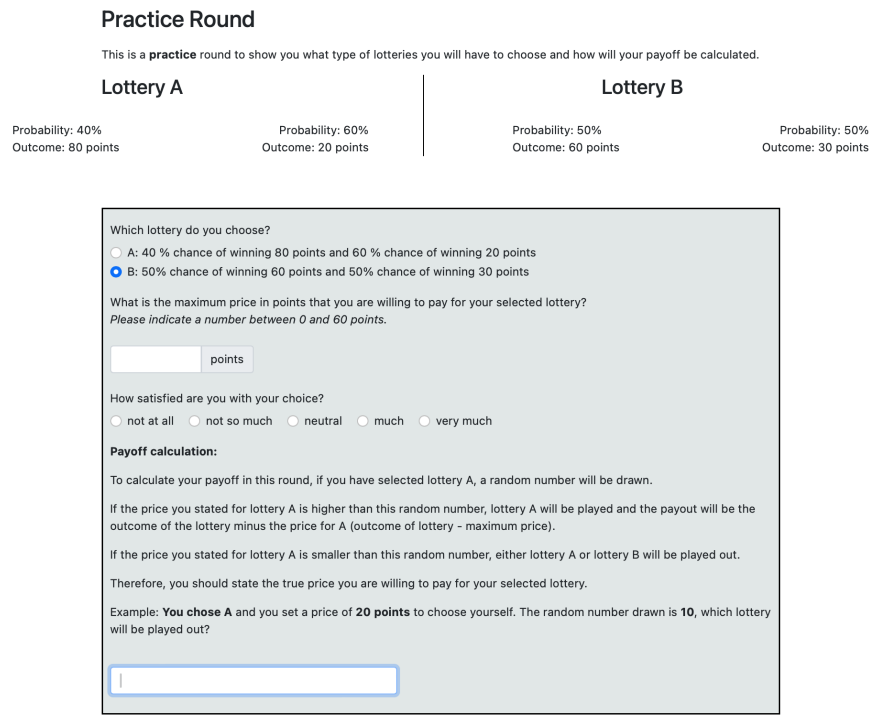

Figure 4.9: Practice round for Control Group and Gains domain

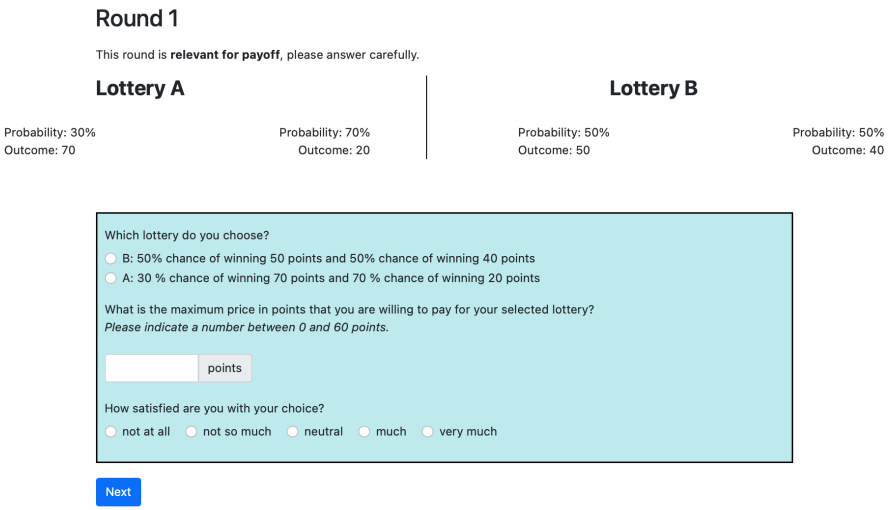

Figure 4.10: Round 1 for Control Group and Gains domain

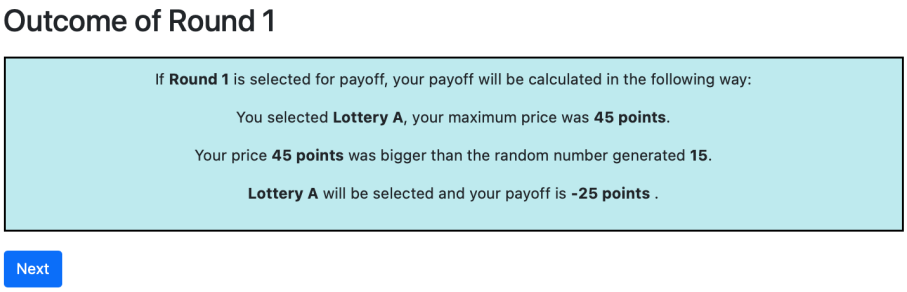

Figure 4.11: Outcome of Round 1 for Control Group and Gains domain if in the subgroup of visible outcomes

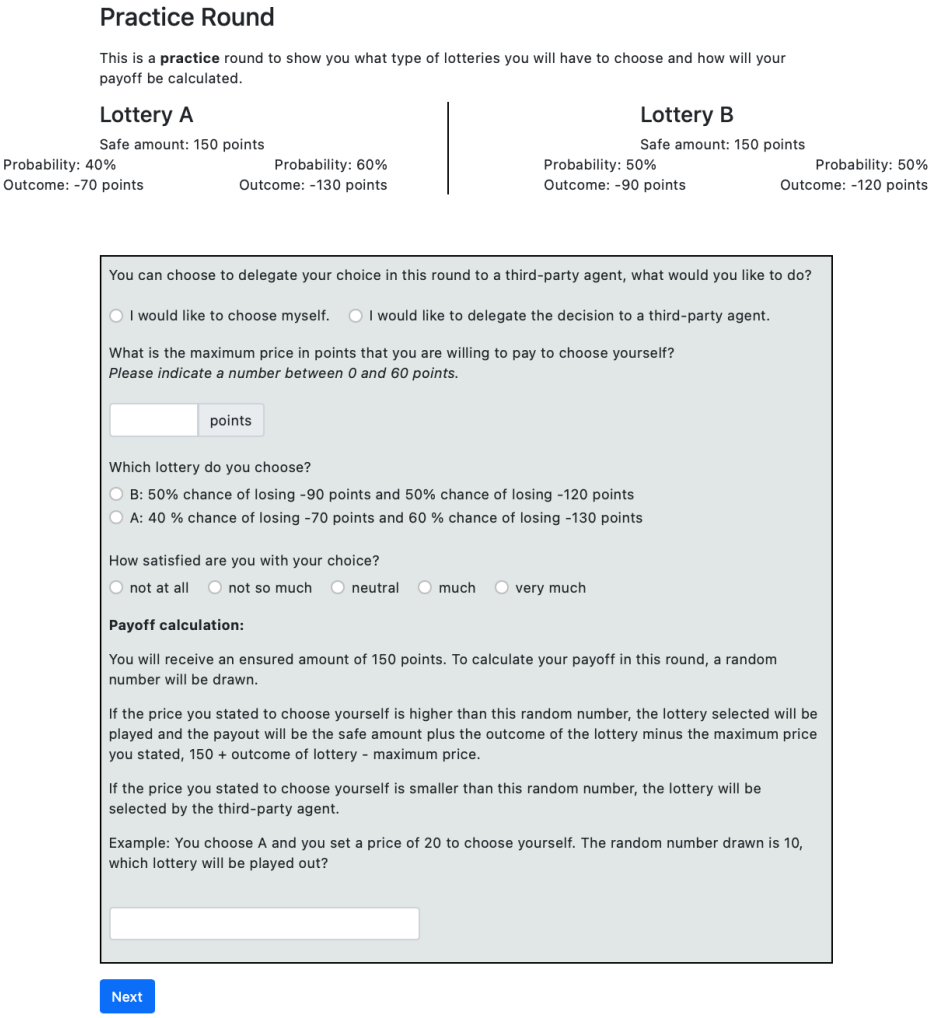

Figure 4.12: Practice round for Delegation Group in Losses domain

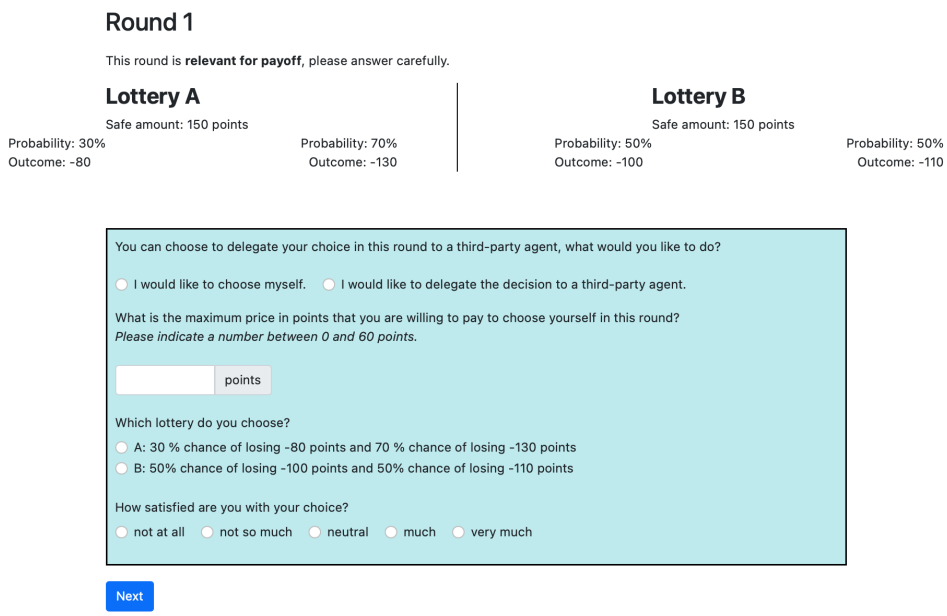

Figure 4.13: Round 1 for Delegation Group in Losses domain

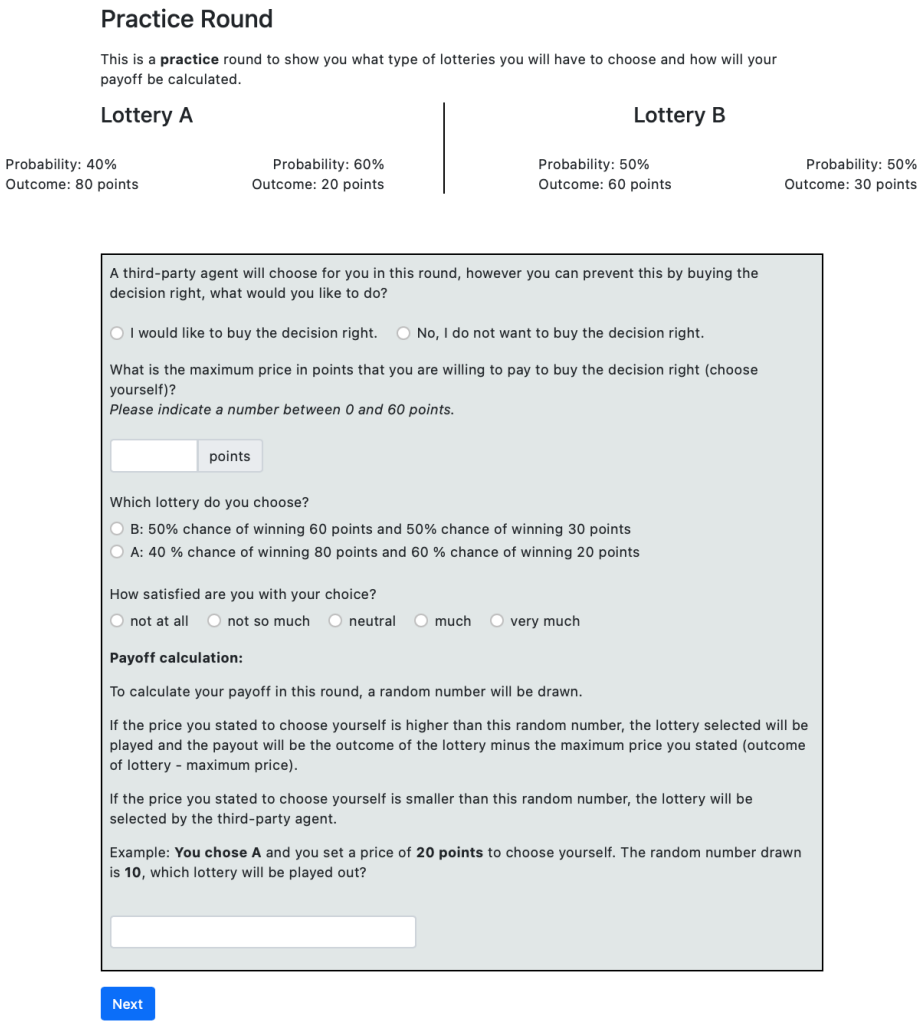

Figure 4.14: Practice Round for Takeover Group in Gains domain

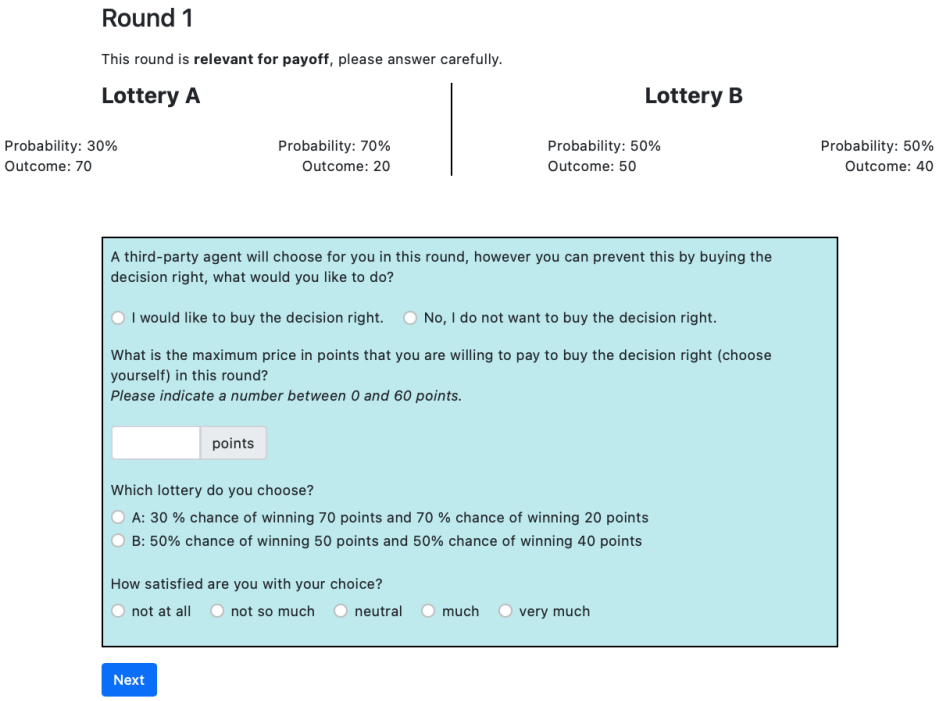

Figure 4.15: Round 1 for Takeover Group in Gains domain

Figure 4.16: Demographics characteristics

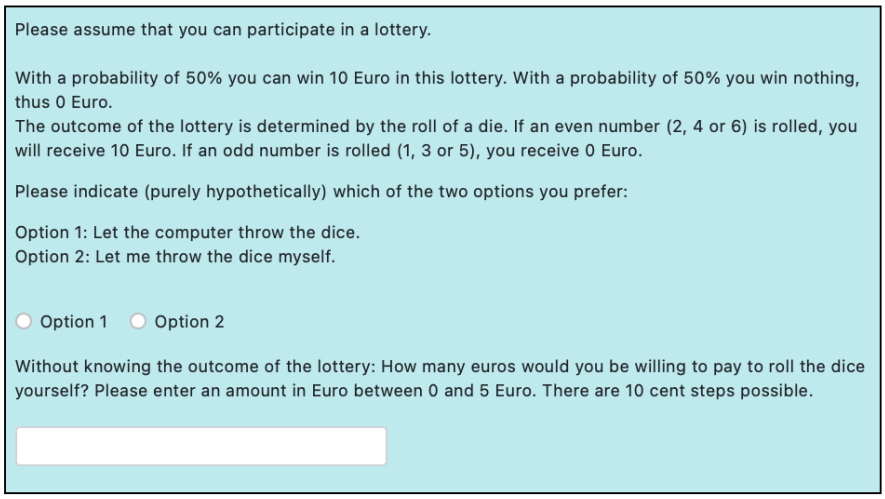

Figure 4.17: Illusion of control measure

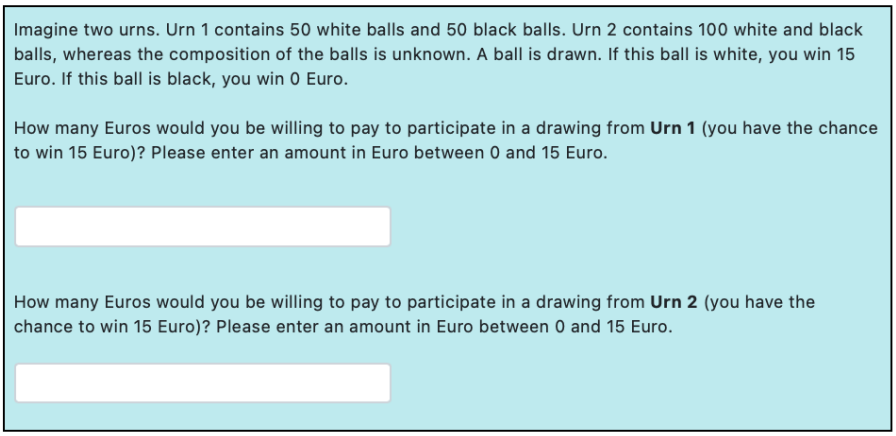

Figure 4.18: Ambiguity aversion measure

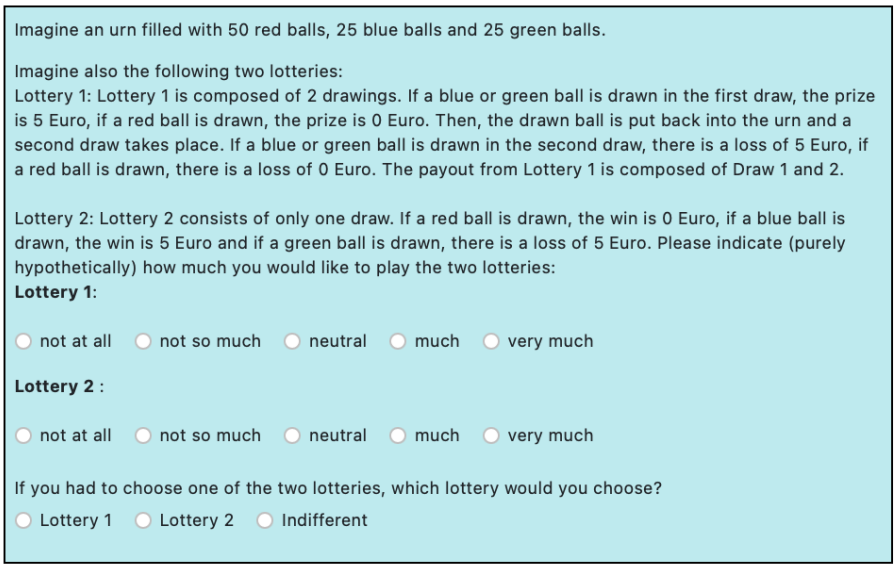

Figure 4.19: Compound aversion measure

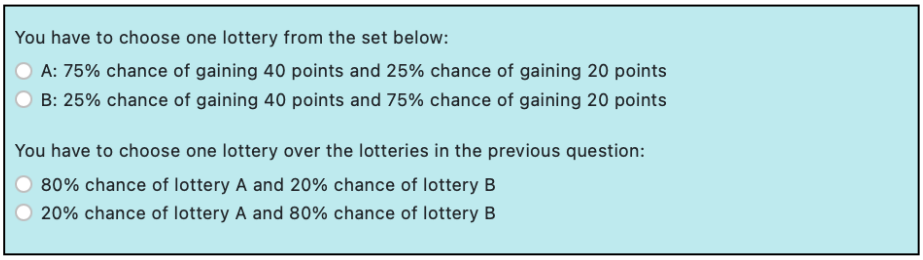

Figure 4.20: Independence axiom measure

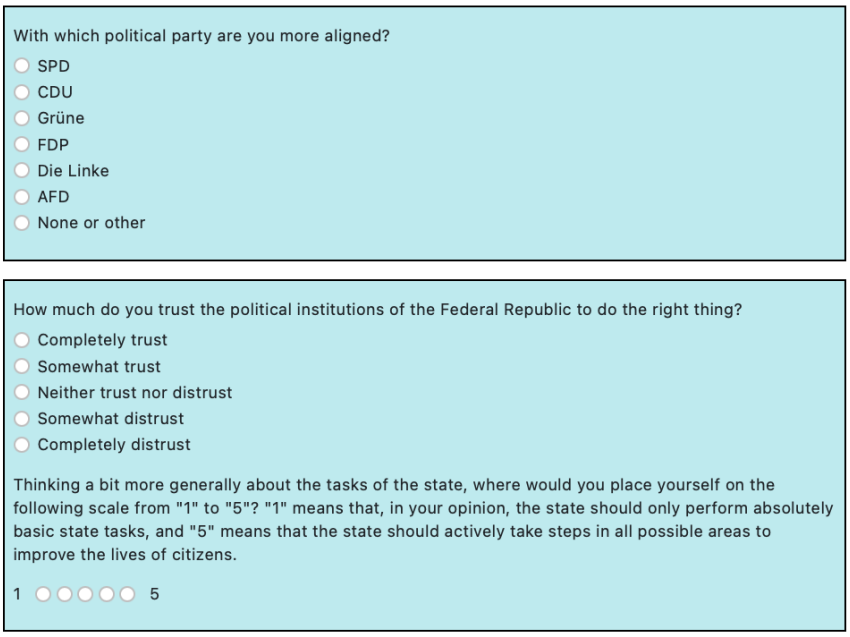

Figure 4.21: Other characteristics

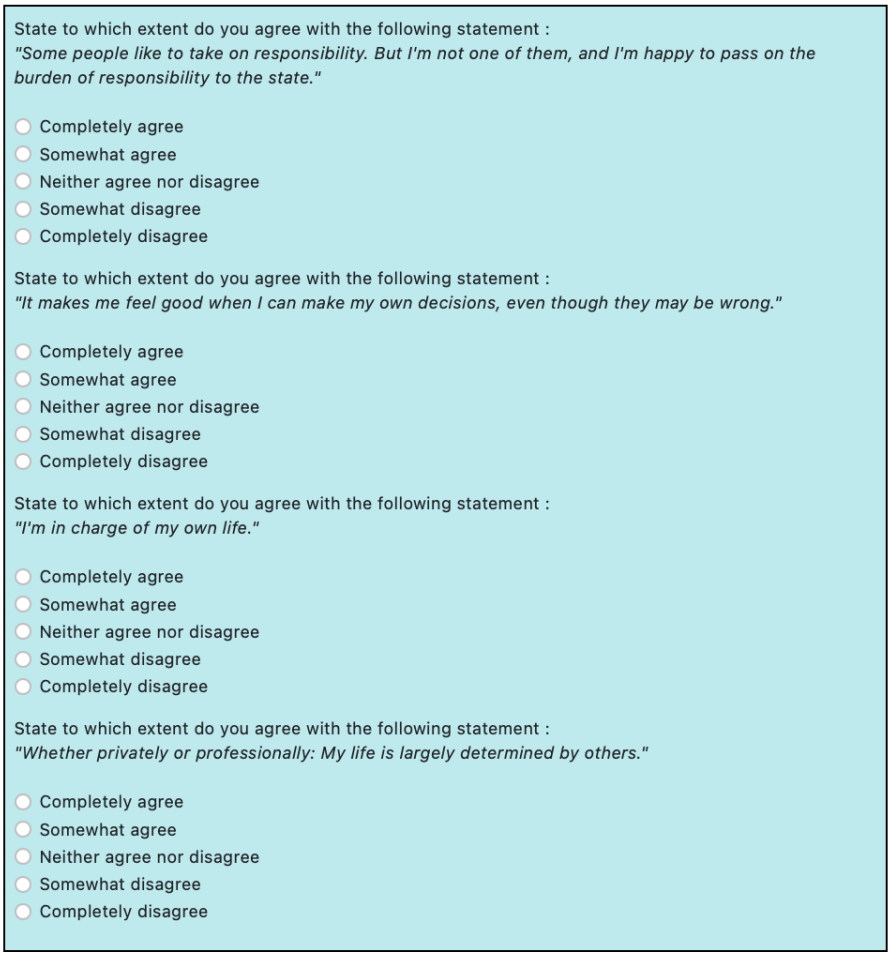

Figure 4.22: Other controls

4.6.2 Tobit regression

Table 4.9: Tobit regression: WTP by treatment and domain

	(1)
	WTP
Delegation Group	-4.074**
	(1.878)
Takeover Group	-11.39***
	(1.874)
Loss domain	-0.531
	(1.910)
Delegation Group × Loss domain	1.649
	(2.714)
Takeover Group × Loss domain	-0.921
	(2.735)
Constant	30.13***
	(3.441)
Controls	Yes
Obs	4452

Robust Standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Notes: Tobit panel regression with random effects. Controls used: sex, age, education, income, external locus of control, internal locus of control, avoidance of responsibility, choice premium, risk preference, compound aversion, ambiguity aversion, illusion of control, trust in government, preference for big government and party affiliation. There are also round fixed effects and cluster standard errors at the respondent level. Base reference is the respondents in the gain domain and the control treatment group.

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