



Voting for change:  
The effects of attitude importance on choice induced attitude change  
in voting

Master Thesis Economics & Business

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**Abstract:** while rational choice and political theory show that attitudes influence voting decisions, voting decisions might also influence attitudes, which could lead to political polarization. Choice induced attitude change, the phenomenon causing such attitude change, has consistently been found in the general (non-political) domain. The results of research on this topic in the political domain are less consistent, and often contradict each other. This thesis adds to the literature for this domain by conducting an experiment rather than studying an existing dataset, and it adds the potentially moderating factor of attitude importance. In an internet-based survey, participants rate their attitude extremity and importance, and subsequently vote for a party. While attitude change was expected to be higher for voters than for non-voters, no such effect was found. Similarly, no effect was found for the expected moderating influence of attitude importance.

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# 1. Introduction and research question

Politics has been marked with turbulence in the recent years. Last year started with an unexpected vote in favor of the Brexit, followed by a victory in the US presidential election for the unconventional candidate Trump. On a more international scale, national elections in both 2016 and 2017 were important in ‘halting the rise of populism in Western democracies’.<sup>1</sup> There appears to be a large amount of discontent among the public of Western society.<sup>2</sup> Varying issues in the global political sphere may increase the insecurity of voters. For instance, there are increased migrant streams from the Middle East, inequality and divisions in society, and the economic consequences of globalization and automatization (Wetenschappelijke Raad voor Regeringsbeleid (WRR), 2014; Sociaal Cultureel Planbureau/WRR, 2017). With a political establishment insufficiently answering the perceived problems of these times,<sup>3</sup> nationalist and populist parties started providing an alternative answer on immigration and economic topics (Sheehy, 2017, February 11). They promised change, and it appears that people are voting for it.<sup>4</sup>

One may wonder, however, what these votes for change mean for the political landscape. Other – often populist or anti-establishment – parties may of course come in to power, so much has become clear. Yet it is unknown what such changes mean for the political attitudes of the voters. Can a vote influence attitude change? And if so, what factors play a role in that attitude change? People are already voting for extremer sides of the political spectrum<sup>5</sup>; if this polarization in voting leads to more polarized attitudes, a harmful cycle of self-perpetuating polarization can arise. As polarization makes it harder to find consensus, the cycle of polarization could in the end harm democratic decision making.

Rational choice theory suggests that attitudes influence voting decisions (such as seen in Abramowitz, 1995; Ajzen & Fishbein, 1977). The more behavioral direction of research shows that choices may also lead to attitude change (e.g. Vecchione et al., 2013). However, this body of research is - as of yet - undecided about the occurrence of this phenomenon with regards to voting and political attitudes (e.g. Mullainathan and Washington, 2009; Elinder, 2012).<sup>6</sup> The role that the importance of an attitude fulfills in this process is even less researched. This thesis investigates the abovementioned

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<sup>1</sup> The Dutch election for its Parliament was e.g. seen as “a test of populist right-wing sentiment in Europe” (Said-Moorhouse et al., 2017, March 16).

<sup>2</sup> Although there may be discontent in other societies as well, the focus of the Western media often lies more on Western societies (and similar patterns occur for research). Other countries are not left unmentioned here out of disinterest – this is more of an availability bias.

<sup>3</sup> This is an observation of the subjective feelings of the population, not an objective judgment.

<sup>4</sup> Not all elections results can be discussed here; for an elaborate overview of election results in the last twenty years across European countries, please see Aisch, Pearce and Rousseau (2017, March 20).

<sup>5</sup> In the Netherlands, the division of votes has become more polarized over the years 1998-2012 (CBS, 2017a). The elections of 2017 could not yet be included in this overview.

<sup>6</sup> These points will be discussed in the literature review.

questions, researching the role of voting and attitude importance in attitude change in the political domain.

The thesis contributes to the existing literature by offering two main additions. First, contrary to many of the previous studies, it uses an experimental approach. Previous research on choice induced attitude change in voting often consists of analyzing large election datasets, and finds mixed results. It is challenging for these studies to find a proper counterfactual for voting, as the choice to vote or not is a process of self-selection (Mullainathan and Washington, 2009). Using an experimental setting allows to control for the factor of voting. This enables us to search for a causal relationship rather than a correlation. Second, this thesis considers the potential moderating influence of attitude importance on choice induced attitude change. The research is not only relevant for purely scientific curiosity, but also answers our research questions also helps to understand how current political developments may influence the future political landscape and what may cause polarization.

The thesis consists of the following buildup. Chapter two discusses what is known about choice induced attitude change, specifically in the political domain. It concludes with the hypotheses that voting should lead to more attitude change than non-voting, and that attitude importance should have a moderating influence on this effect. Chapter three explains how these hypotheses can be tested in an experiment, thereby elaborating upon the setup of the experiment. It also operationalizes terms such as ‘voting’ and ‘non-voting’, or ‘attitude extremity’. Chapter four discusses what the participants encounter when they take part in the experiment, and discusses the makeup of the sample. Chapter five presents the results of the experiment, testing our hypothesis and further exploring the data. Section six concludes the research, discussing the findings, limitations, and suggestions for future research.

## 2. Literature review and hypotheses

To answer the research questions, this thesis reviews the available knowledge base to form two hypotheses, which are subsequently tested in an experiment. This specific section focuses on the available knowledge base that aids in the formulation of specific hypotheses. To establish a common frame of reference, it starts by explaining how attitudes are defined. Moving on, it discusses attitude change and its causes. This is first discussed in general, and then discussed specifying to the political domain. That chronological overview of contradictory findings concludes in the first hypothesis. The second half of the section further explores the moderating role of attitude importance in choice induced attitude change in voting. As the research available on this topic is scarce, the discussion is kept general rather than voting-specific.

### 2.1 A note on definitions

As the concept attitude is central to this thesis, we need a common frame of reference for the related concepts. The term ‘attitude’, after all, may signify a different concept for different people. This thesis uses ‘attitudes’ to refer to “people’s overall evaluations of the objects in their environment” (Eaton and Visser, 2008. p.1). While stemming from psychology, the concept of attitudes is also relevant to (behavioral) economics. It relates to specifically to ‘preferences’, which are a ranking of alternatives, based on the attitudes towards the objects of the decision (Lichtenstein & Slovic, 2006). Both attitudes and preferences are important in decision-making. Attitudes are known to strongly affect behavior, and affect it in predictable ways (Greenwald, 1989). The strength of this effect differs per attitude. Attitudes related to work may for instance drive behavior of one person more strongly than his/her attitudes on color preferences. Attitude being a multidimensional construct, there are multiple dimensions influencing the strength of these effects, ranging from the strength of an attitude to time spent on attitude formation. For example, so-called strong attitudes are more stable, and influence behavior more and for a longer time than weak attitudes (Krosnick & Petty, 1995).

In colloquial language, the term ‘attitude’ is often used to speak specifically of attitude extremity. This dimension, as the name indicates, is the degree to which a person is positive or negative about the attitude object. It shows the direction of the attitude. For instance, a person may hate or love an object, or strongly (dis)agree with a certain statement.<sup>7</sup>

The other concept used in this thesis is the dimension called attitude importance. This aspect concerns the subjective beliefs about the attitude. It refers to the subjective judgment a person has of his/her attitude toward that attitude object (Boninger, Krosnick, Berent, and Fabrigar, 1995). For

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<sup>7</sup> To clarify: attitude extremity does not refer to whether an attitude is extreme or not, but concerns the valence of a feeling toward an object. In this thesis, the words ‘attitude’ and ‘attitude extremity’ are often used interchangeably, following the normal colloquial use. Generally, the context of the sentence will clarify whether attitude(s) refers to attitude as a multidimensional construct, or to the dimension of attitude extremity.

instance, an attitude may be important to a person or not; a person may for instance care strongly about his attitude about work but not about his attitude about colors.

Attitude extremity and attitude importance are the main dimensions used in this thesis to examine whether voting can change attitudes. They will be used to respectively measure and predict attitude change.<sup>8</sup> How exactly they relate to choice induced attitude change will be discussed further on in the literature review. First, however, let us start by explaining what ‘choice induced attitude change’ is.

## **2.2 Choice induced attitude change in voting**

### *2.2.1 Explanations for choice induced attitude change*

Attitudes can influence choices, both in general and in politics (see e.g. Ajzen & Fishbein, 1977; Vecchione et al., 2013). The opposite effect can also occur: an action or choice can influence the attitudes people hold (as seen in e.g. Vecchione et al, 2013). Specifying this to the context of choice, the effect of attitudes changing after free or forced choice is referred to as ‘choice induced attitude change’. Since voting is form of a choice – a rather permanent one in fact – this raises the question whether such an effect could occur in voting as well. To answer this question with a hypothesis, a discussion of theories and empirical evidence of attitude change is in place.

A wide range of explanations is available for attitude change, ranging from cognitive dissonance to confirmation bias. As much of the discussed literature uses cognitive dissonance to explain choice induced attitude change, the hypotheses and experiment use the same terminology and underlying ideas. Although not explicitly used to form our hypotheses, a few other theories are also elaborated upon for the sake of giving a more complete overview; these can be found in appendix A.

#### *2.2.1.1 Cognitive dissonance*

People continually interact with their environment; they undertake actions, make decisions, and gain knowledge based on their experiences. These interactions translate into so-called cognitions, or cognitive elements.<sup>9</sup> A person can for instance have the cognition that smoking is bad, while also having the cognition that she smokes. People prefer their varying cognitions to be logically consistent, or ‘consonant’, with each other. The need for consonance can be so strong that people alter (sets of) cognitions to achieve it (Festinger, 1962; Wicklund and Brehm, 2013). In the frequently used example of the smoker who knows smoking is detrimental to his/her health, the smoker can thus convince herself that smoking is not so bad for her health as everyone says.

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<sup>8</sup> The attitude change discussed will be operationalized as a change in attitude extremity between two points in time.

<sup>9</sup> To be more precise, cognitions can be defined as ‘the things a person knows about himself, about his behavior, and about his surroundings’ (Festinger, 1957).

The phenomenon of attitude change is sought to be explained by various theories. Leon Festinger (1957) was one of the first describing it, coining the inconsistencies between cognitions as ‘cognitive dissonance’. He used that same term to describe its two-step process: in step one, a (physical) arousal results from the dissonance, an unpleasant arousal that, in step two, drives the subject to undertake action to reduce it. The drive for reduction is said to be strong enough to drive people to seek for dissonance reduction with the same drive that propels hungry people to search for food (Festinger, 1962). Looking at this theory from a more formal or economic perspective, one could say that cognitive dissonance theory attaches a utility to the consistency of cognitions – or, alternatively, a cost to inconsistent cognitions. This utility adds or subtracts to the regular utility derived from the actions themselves (Schlicht, 1984; Acharya, Blackwell and Sen, 2015, Gilad, Kaish & Loeb, 1987). If the cost of inconsistent cognitions is higher than attitude change, the cognitive elements will be adjusted to accommodate consistency.<sup>10</sup>

Reducing the dissonance can be accomplished in several ways: by changing the elements via changing the reality upon which the elements are based on, or the cognitions themselves; by changing the respective importance of the elements; or, by adding additional cognitive elements (Simon, Greenberg, and Brehm, 1995). In the case of a behavior being dissonant with an attitude – keeping in mind the smoker - a person can change her behavior (by stopping her smoking), change her attitude (by caring less about her health), or add other cognitive elements (by focusing on research that considers health advantages of smoking).

A wide range of studies has found support for the theory and effects of cognitive dissonance. For the sake of brevity, only a few examples are mentioned here. For more information, see among others Festinger (1962) and Harmon-Jones and Harmon-Jones (2007). Dissonance has been shown to possess a physical component of arousal and to be related to negative affect (Harmon-Jones et al., 1996; van Veen et al., 2009; Harmon-Jones, 2000). Moreover, the arousal of dissonance has been shown to lead people to change their attitudes.<sup>11</sup> For instance, in an experiment inducing participants to lie, the participants with a lower financial incentive adjust their attitudes more towards their task than those with high incentives (Festinger and Carlsmith, 1959). When people are asked to choose between two options (often from a list of objects they ranked before), the attitude towards to chosen item becomes more positive whereas the forsaken item becomes less appreciated (Brehm, 1956; Shultz, Léveillé, and Lepper, 1999). When participants have to put effort into obtaining an (often not so special) outcome, they show increased levels of liking for the outcomes they have to put more effort into, whether that is

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<sup>10</sup> This process need not take shape as the regular conscious cost-benefit analysis, but the idea illustrates when attitude change could occur.

<sup>11</sup> The other adjustments of (relations between) cognitions are left out of scope here, as this thesis focuses on attitude change.

a discussion group or the assembly of IKEA furniture (Aronson & Mills, 1959; Norton, Mochon & Ariely, 2012).

### 2.2.2 *Choice induced attitude change in voting*

There is sufficient support for choice induced attitude change occurring the general domain, but whether this effect translates to the political one is unsure yet. Moving to the context of voting and choice induced attitude change, the need for consistency can explain why people alter their attitudes after making a choice between several options.<sup>12</sup> According to both theory and empirical research, choice induced attitude change could occur in voting. Voting is in fact a way of choosing between two options. In fact, voting offers an almost perfect opportunity for a choice to influence attitudes. We assume a vote adds cognitive elements of the decision to the existing elements. These new elements can be consonant or dissonant with previous ones. In politics, the vote is often at odds with existing cognitions. Political parties advocate a multitude of ideas on a broad range of political topics, which makes the chances of completely agreeing with one party rather small. Since no party will fully fit the attitudes of the voter, there is a large chance of voting for a proposition one does not agree with, and encountering a small amount of dissonance in voting. Furthermore, voting itself is a permanent choice – once the ballot is in the ballot box, there is no way in which to reverse it, making a change in attitudes a viable direction to achieve consonance. On the theoretical basis discussed in part 2.2.1, we may expect attitudes to be adjusted in such a case of a dissonance-inducing vote.

As previously described, the theory of cognitive dissonance involves three ways to reduce dissonance. People can change one of the dissonant elements (such as the behavior or attitudes involved), add (new) more consonant, cognitions, or decrease the importance of the involved elements (Brehm & Cohen, 1962; as cited by Beasley and Joslyn, 2001). These options are not mutually exclusive: they may occur together, and can at times substitute each other (as seen in Zuwerink and Devine, 1996). Whereas the last two options of dissonance reduction are worthwhile directions of research, they are out of scope for this research. In the context of understanding the consequences of voting on potential polarization, the focus lies on attitude adjustment.

Let us thus consider how the change of a dissonant element would work in the specific context of voting. As figure 1 shows, there are two sets of cognitive elements involved: the decision of who or which party to vote for, and the set of attitudes that is at stake in the voting decision. The vote itself is a permanent decision – once the ballot is in the ballot box, there is no way in which to reverse it. When the voting decision and the set of related attitudes do not coincide, the cognitive element belonging to the decision is hard to adjust. This path becomes what Festinger referred to as ‘the path of most

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<sup>12</sup> In this thesis, an attitude is considered ‘changed’ if there is a difference between the attitude measured before and after a certain point in time. As we do not measure behavior, there are no conditions for measuring changed behavior as the result of a changed attitude.

resistance'. Using the path of least resistance to reduce dissonance should logically take place by changing the set of attitudes for voting, adding additional cognitions, and/or trivialize the importance of the vote or the set of attitudes.<sup>13</sup>

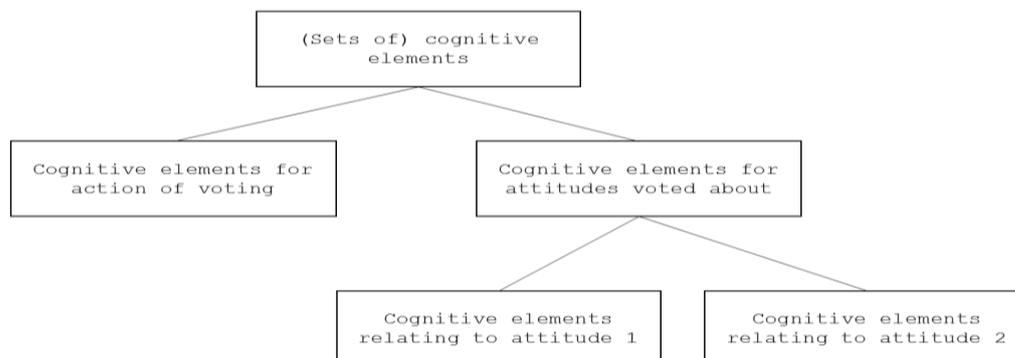


Figure 1: Directions for attitude change

In addition to this theoretical support, there is empirical support for choice induced attitude change in voting. The following part contains a brief overview of the three types of research examining choice induced attitude change in voting: asking voters for their opinion right at the polling station (before or after voting); asking the opinions of a small sample in the weeks before and after election times; and using large (panel) datasets of election studies (such as the American National Election Studies (NES)).

When asking voters for their attitudes at the polling booths, these attitudes and expectations are found to be more positive after voting. Canadian voters are then more likely to believe that their candidate was the best candidate (Frenkel and Doob, 1976). Similarly, Regan and Kilduff (1988) find that voters are more confident in the chances of their voted-for candidate after than before voting. With the second method, where attitudes are collected in a small sample in the weeks close to the election, attitudes are found to – on average - become more moderate. In a small study spanning the three weeks surrounding the election, voters became less polarized in their disfavor or favor towards both the eventual winner and loser of the elections (Thomsen, 1938).

Most research is conducted using the third method. However, the findings are often contradictory, and researchers criticize each other's designs. Comments on the research method are added where relevant for the experimental design.<sup>14</sup>

Granberg and Nanneman (1986) use the NES for their studies. Using one year of pre- and post-election interviews, they find that people become more favorable to the winner and less favorable to the

<sup>13</sup> Besides cognitive dissonance, McCann (1997) provides other explanations for why voting may have an effect of choice induced attitude change. These include: identification with the group of people that supports the party, and more closely attending to arguments from the party voted for. While viable options, our experiment is set up such that this information is not available to the participants. These options are therefore not discussed further.

<sup>14</sup> The methodological issues are not discussed in-depth in this thesis. For a succinct and clear overview, please see Elinder (2010, p.4). Another important criticism of the Free Choice Paradigm is discussed in Section 3.

loser after voting than before. This change in attitudes before and after voting is stronger for voters whose expectations were at odds with the election outcome. Beasley and Joslyn (2001) attempt to separate two types of attitude change: that related to dissonance-inducing decisions and that related to electoral outcomes.<sup>15</sup> Analyzing six presidential elections, they find voters generally increase the difference between their preferences for two candidates. Furthermore, they find a larger spread<sup>16</sup> in attitudes toward two candidates if people like both candidates (a ‘hard choice’) than if people clearly favored one candidate in the beginning (an ‘easy choice’) (Beasley and Joslyn, 2001).

Voting does not only influence perceptions of candidates, but also perceptions of the economy. In the UK, a panel study showed that both past perceptions and future expectations of the economy are influenced by the vote expressed. This finding holds even when partisanship is controlled for: Brits voting for the winning Labour party had relatively more negative perceptions of the past performance of the economy, and better expectations for the economy in the future (Anderson, Mendes, Tverdova, 2004).

Mullainathan and Washington (2009) study choice induced attitude change in voting by using the opinions people have of candidates. They make use of controlling variables to isolate the effect of voting and thereby prevent self-selection of voters into the data.<sup>17</sup> Therefore, they compare first- and second-time voters, which they select on age, at  $t$  and  $t-1$ . Their results support their hypotheses: at  $t$ , second-time voters are indeed two to three times more polarized in the ratings of candidates than similar people who were not yet allowed to vote in the previous elections ( $t-1$ ). However, their findings are contradicted by a study using the same method for Swedish and American voter data. Elinder (2012) finds no effect of voting eligibility at  $t-1$  on polarized attitudes. The contradicting findings could relate to the timing of the attitude measurements: Mullainathan and Washington use the post-election interviews from the NES while Elinder uses additional pre-election data. The difference in findings could indicate a temporal effect of cognitive dissonance and choice induced attitude change, or it could also indicate that there are differences in the sample. McGregor (2013) attempts to settle the matter and uses Canadian Election Studies to test six hypotheses concerning (sources of) cognitive dissonance in voting. He finds support for multiple of them, namely that: voting influences attitude change, a higher personal importance of the election outcome increases the spread between candidate opinions, voting

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<sup>15</sup> We do so as well, but by using an experiment, which removes the possibility of election outcomes influencing our results.

<sup>16</sup> Change between attitudes before and after voting; in this context that means the difference-in-difference of (attitude a after voting – attitude b after voting) – (attitude a before voting – attitude b before voting).

<sup>17</sup> They argue that previous research may contain a self-selection bias in the samples of voters used, because the decision to vote may be dependent on the pre-election preferences of a potential voter. Accordingly, they use a restriction on voting age to control for potential exogenous variation. Taking elections at time  $t$ , they study the attitudes of first- and second-time voters (based on their age) at time  $t$ , while making an assumption about their preferences at time  $t-1$ . As first-time voters at time  $t$  (aged 18 and 19) were not allowed to vote in the elections at time  $t-1$ , their attitudes cannot yet be influenced by voting induced attitude change. Mullainathan and Washington thus expect first-time voters at time  $t$  to have less polarized attitudes. Since second-time voters (aged 20 and 21) have voted before, these voters may have adjusted their attitudes as the result of choice induced attitude change.

reinforces the attitudes of people who decide on their vote relatively early in the elections, and that the significance of the effect of electoral success on attitude change differs per year.

Bolstad, Dinas, and Riera (2013) focus on tactical voting. By examining only tactical voters, they hope to isolate the potential effect of cognitive dissonance from the confounding factors such as habit formation or party preference. Using the British Election Study of 2001 and 2005, they find that a tactical vote increases the preferences for the party voted on. This suggests that voting does not merely reinforce previous preferences, but can seriously alter them. Research using Dutch and Swedish panel data on e.g. immigration finds comparable results. Hartveld, Kokkonen and Dahlberg (2017) find that voters who change the party they vote for over time, start adjusting their attitude on immigration towards the party line. Voters who switched towards a more leftist party became more lenient on immigration, whereas voters who switched towards the extremist right became stricter on immigration.

### 2.2.3 Hypothesis 1: Choice induced attitude change in voting

The theoretical foundation of both cognitive dissonance and other theories supports the idea of choice induced attitude change in voting. The empirical literature on voting is more ambiguous; it has found both support in some cases and a lack of support in other cases. In some cases, the lack of findings may also be due to methodological flaws,<sup>18</sup> which are attempted to be circumvented in the experiment conducted for this research. Taking that in to account, an effect of voting on choice induced attitude change is therefore expected. The first hypothesis is as follows:

$H_{01}$ : *On average, the difference between pre- and post-election attitudes does not differ between voters and non-voters.*

$H_{A1}$ : *On average, the difference in pre- and post-election attitudes will be larger for voters than for non-voters.*

## 2.3 Attitude importance in choice induced attitude change in voting

The relation between voting and attitude change is influenced by various confounding influences. These can influence the detection of choice induced attitude change when not taken into account. Some of the factors are structural and inherent to the political system in a country, such as strategic voting and the number of the parties in the system (McGregor, 2013; Anderson, Mendes, and Tverdova, 2004; Beasley and Joslyn, 2001; Bølstad, Dinas, and Riera, 2013). Some of the influences are not structural but (intra)personal: extraversion, for instance, has been correlated to a lower amount of cognitive dissonance and attitude change of individuals in disagreeing groups (Matz, Hofstedt, and Wood, 2008). A more substantial difference could lie in the factor of attitude importance. The significance of attitude importance lies in its variation: this measure differs both between people and

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<sup>18</sup> As further discussed in section 3, as these potential weaknesses are considered when choosing the research design.

between topics. For the second hypothesis, we will examine the influence of this factor in choice induced attitude change in voting.

This section will show that theory and subsequent research provide clues that attitude importance could play a moderating role in choice induced attitude change in voting. It will work towards forming a hypothesis by discussing what attitude importance entails, what role it plays in attitude change, and what role it may play in attitude change in voting. Due to a lack of available research on the role of attitude importance in attitude change specific to voting, the discussion focuses more on general findings and less on findings specific to the voting-context.

### *2.3.1 Attitude importance*

As previously mentioned, attitude importance is the subjective judgment that a person has of his/her attitude toward that attitude object (Boninger, Krosnick, Berent, and Fabrigar, 1995). Throughout the literature, the term has been used to cover multiple definitions, some only focusing on the material importance of an attitude. This thesis uses a more holistic definition, in which an attitude is important to a person if he or she indicates that the attitude matters to them personally. This importance can depend on material interest, but does not exclusively do so. Boninger, Krosnick & Berent (1995) show that attitude importance is dependent on three factors, with the strength of these predictors varies over time and cultures. The predictors are: a) the relevance of the attitude object to a person's material self-interest, b) identification with groups or individuals for whom the attitude is important, and c) the relevance of the attitude (object) to a person's own values (Boninger, Krosnick & Berent, 1995).

Attitude importance affects the relation between attitudes and behavior, as well as the probability of attitude change. The degree of personal importance (material or immaterial) attached to an issue is a predictor of engagement with that issue (Fabrigar & Krosnick, 1994 as cited in Krosnick & Petty, 1995; Visser, Krosnick, & Simmons, 2003). Attitude importance increases resistance to change (Fine, 1957 and Gorn, 1975, as both cited in Eaton & Visser, 2008). Furthermore, important attitudes are relatively stable over time (Krosnick, 1988) and have a larger influence on thoughts and behaviors (Krosnick et al., 1993; Krosnick, 1988). Generally, there is a greater motivation to resist change for more important attitudes (e.g. Boninger, Krosnick, Berent, & Fabrigar, 1995; Eagly & Chaiken, 1993; Festinger, 1957; Petty & Krosnick, 1995). This has also been shown to hold in an experimental setting (e.g. Zuwerink and Devine, 1996).

#### *2.3.1.1 Attitude importance in attitude change*

By itself – without induced choices - attitude importance is not expected to influence attitude change. While attitudes themselves are often more extreme for more important attitudes (Krosnick, 1988; Cantril, 1946), there is no reason for attitude importance to create attitude change without the presence of a choice. However, within a setting of decision-making, attitude importance should play a

key role in attitude change through the arousal of dissonance. Cognitive dissonance theory assumes the magnitude of cognitive dissonance to be a function of the importance of the separate (sets) of cognition(s) (Festinger, 1957). Formally, this is summarized as follows (Cooper, 2007):

$$\text{Magnitude} = \frac{\text{Sum of (discrepant cognitions * importance of cognitions)}}{\text{Sum of (consonant cognitions * importance of cognitions)}}$$

Based on these ideas, a higher importance of a discrepant attitude is expected to lead to a larger magnitude of dissonance, and thus to more pressure for a person to adjust his cognitions.

### 2.3.1.2 Direction of attitudinal change

When testing for the effects of attitude importance in choice induced attitude change – in a general context, not specific to voting – the findings show mixed results concerning the valence of the relation and concerning which of the attitudes changes. Two types of experiments are distinguished in the discussed literature. Both do not fit our research question perfectly, but they provide their best approximation to an indication of the effects. In the one type, the importance of the decision is manipulated. In the second type, people choose between two or more objects for which attitude importance varies. The former type provides a suggestion about the valence of the relation between attitude importance and the size of attitude change. The latter provides clues as to which of the attitudes at stake will change in case of attitude change. Both are discussed below.

In an experiment where participants evaluate alternatives within the context of a decision or a judgment, attitude change is higher for participants with moderate or low attitude importance<sup>19</sup> than with high attitude importance (Tyszka, 1998). In experiments with counter-attitudinal essay writing or betting in high- and low importance bets, others found the opposite effect: higher attitude change for the participants with higher attitude importance (Eisenstadt and Leippe, 2005; Brownstein, Read, & Simon, 2004). The studies of this type all interpret ‘high in attitude importance’ as ‘highly consequential for the subject’ or ‘a highly important decision’. This is a caveat, as we previously learned that consequential does not necessarily mean high in attitude importance and vice versa. With other predictors of attitude importance, the effect may differ. They also provide no conclusion on the valence of the relation, but do provide support for the existence of a relation between attitude importance and attitude change in case of voting. An effect is thus expected to occur, although the direction is unsure. In testing our results, both a positive and a negative effect will be considered.<sup>20</sup>

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<sup>19</sup> In Tyszka (1998) the importance of the attitude was manipulated by adjusting the importance of the decision, not that of the attitude itself.

<sup>20</sup> A negative effect meaning that higher attitude importance decreases the amount of attitude change, and a positive effect meaning that higher attitude importance increases the amount of attitude change.

To provide a realistic and dissonance inducing voting situation, the experiment used for this study uses two political topics about which the participants get to vote.<sup>21</sup> This set-up will be discussed more elaborately in chapter three. We assume that there are two ‘choices’ to be made with regards to cognitive dissonance and attitude change. The first is that between the cognitive elements concerning the vote and the cognitive elements concerning the attitudes.<sup>22</sup> Based on the recency of the vote, we assume participant to adjust the cognitive elements concerning the attitudes. In that second ‘choice’, we expect attitude importance to play its crucial role.

The question that remains is which of the two political attitudes would be adjusted in case of attitude change. As Festinger (1962) hypothesized, the cognition with the least resistance to change should be adjusted. Acharya, Blackwell and Sen (2015), by whom our experiment is inspired, formalized the process of attitude change in case of cognitive dissonance. They predict the following: when the cost of attitude change is equal for two attitudes and there is no ideal choice,<sup>23</sup> they predict that voters adjust the attitude they care the least for.

This is where the second type of study, as mentioned earlier, comes into play. It shows how this theory works in an experimental setting. Shultz, Léveillé, and Lepper (1999) show empirically how dissonance can be relieved by adjusting one attitude upwards, or the other downwards, or a combination of both. They look at choices with equally desirable alternatives, which in some cases are both not desirable and in others are both desirable.<sup>24</sup> In the former case, they see an increase in the evaluation of the chosen option. In the latter, they see a decrease in the evaluation of the rejected option.<sup>25</sup> While this research considers the attractiveness of an option rather than the attitude importance, it still provides some direction as to what directions attitudes change in in the case of equally attractive alternatives. Brehm (1956) finds similar results, finding that hard choices (between equally likeable products) led choosers to negatively adjust their attitude towards the rejected alternative. Choosers did not change their attitudes significantly after an ‘easy’ choice, between products that were far apart in their ratings.

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<sup>21</sup> As previously discussed, voting provides a permanent action. Thus, to test whether voting could induce attitude change, we could technically let participants vote against their interest on one topic only. The ‘path of least resistance’ of change would then lie with the attitude change, as behavioral change is not possible. However, such a voting situation would not only feel potentially unrealistic to participants, but also not be easy to generalize to a normal voting context. After all, we hope that, in real life, people do not vote against their own attitude if there is only one topic to vote on.

<sup>22</sup> As previously described on page 13.

<sup>23</sup> Meaning that the parties they can vote for do not fully align with their attitudes.

<sup>24</sup> More desirable can be seen as more important in a material sense, and thus higher in attitude importance.

<sup>25</sup> The setup of Rating, Choosing and Rating that this experiment uses is subject to some discussion by Chen and Risen (2010). This criticism will be discussed in more detail later, to prevent it from occurring in this experiment.

### 2.3.2 Hypothesis 2: *the role of attitude importance in choice induced attitude change in voting*

Attitude importance relates to the amount of attitude change, but the exact shape or direction of the relation is not yet clear. As Starzyk et al. (2009) discuss, attitude importance has a double function in the arousal and relief of cognitive dissonance, making it hard to determine what the effect will be. A higher attitude importance leads to more cognitive dissonance, while also potentially making attitudes more resistant to attitude change (Starzyk et al., 2009, citing: Allyn & Festinger, 1961; Cialdini, Levy, Herman, Kozlowski, & Petty, 1976; Fine, 1957; Gorn, 1975). The experimental research often concerns the material importance of products, and (re-)evaluations of these products after choosing. These findings may be subject to the criticism of Chen and Risen (2010) as will be discussed in section 3, and they may also not translate directly to the domain of politics. However, they provide the best indication of which attitude will be changed. Based on the fact that even this research is still ambiguous, no prediction is made concerning which of the attitudes will be changed, only that there will be a moderating effect on attitude change.

*H<sub>02</sub>: On average, the difference in pre- and post-election attitudes does not differ between voters with a high attitude importance and voters with a low attitude importance.*

*H<sub>A2</sub>: On average, the difference in pre- and post-election attitudes differs between voters with a high attitude importance and voters with a low attitude importance.*

## 3. Experimental Design

Discussing the literature in the last section, we hypothesized that - on average - the difference in pre- and post-election attitudes for two topics: 1) will be larger for voters than for non-voters; and 2) will differ between voters with a high attitude importance and voters with a low attitude importance. These hypotheses will be tested in a way that varies from the previous literature in three aspects. The discussed literature often uses databases to study the effect of voting on attitude change, but we deviate from this by using an experiment. Using an experiment allows to control the factor of voting without self-selection biases. Moreover, more practically, the data available on Dutch voters did not consistently include the types of questions necessary for the research we want to conduct. The second variation is the inclusion of attitude importance. The third, small change, is that unlike many of the other studies this study looks at the attitude change regarding political topics rather than candidate or party impressions.<sup>26</sup>

The experiment conducted consists of an online survey. The survey measures attitude and attitude importance, manipulates when subjects vote, and remeasures their attitude. This chapter describes various the parts of the experimental design in brief. A description of the procedure and sample follows in the next chapter. An example of the survey as filled in by the participant can be found in appendix D.

### 3.1 Language

The experiment is conducted in both Dutch and English. This is done both to reach a large sample and to allow native Dutch/English speakers to thoroughly understand the survey – not all native Dutch speakers are used to speaking about politics in English. The survey was created in English, and translated to Dutch while staying true to the English interpretation.<sup>27</sup> By doing so, framing effects due to natural differences in languages should be minimized.

### 3.2 Problem description

To measure attitude extremity and attitude importance, the participants are asked to give their opinion about two political topics.<sup>28</sup> These topics, euthanasia and a tax on meat, are selected based on four criteria: their relevance for the expected sample of the experiment,<sup>29</sup> the variation in attitudes that people may have regarding the topics, the variation in attitude importance that may be attached to the

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<sup>26</sup> This adjustment is based on a personal interest of the researcher, and a consequence of inspiring the research on the study by Acharya, Blackwell and Sen (2015).

<sup>27</sup> The Dutch translation was checked and compared to the English version by a friend fluent in both languages.

<sup>28</sup> The methods of measurement are described later on in this section.

<sup>29</sup> The sample is expected to mainly consist of friends, family, and acquaintances of the author: many college students or young professionals, mixed with some older professionals.

topics, and lastly, a low correlation of the attitudes and attitude importance of one topic to the other topic.

The topics come directly from the Dutch ‘Stemwijzer’, a tool consisting of thirty statements that helps Dutch voters to understand which party matches their political opinion. The thirty political statements in the Stemwijzer are based on the statements found in election programs of all parties. The Stemwijzer’s committee selects these based on the presence of high variation in the viewpoints of political parties (Stemwijzer, 2017). Assuming political parties somewhat represent the opinion of the Dutch population, we assume these statements to also provoke varying opinions in the Dutch population too.<sup>30</sup>

From the thirty statements, topics for the experiment are selected based on the previously mentioned criteria. An elaboration of this decision-making process can be found in appendix A. The two statements chosen were translated to English in a literal sense, minimizing potential differences between the Dutch and English survey. The first statement is “the tax on meat should be increased to a 21% VAT”. The second statement is “elderly who feel their life is fulfilled should be able to get professional help to end their lives”

### **3.3 Measurement of attitude importance**

Attitude importance is measured for both topics with four questions per topic. This method of measurement, used by Zuwerink and Devine (1996) asks whether someone sees a topic as important to them personally, cares about it personally, has intense feelings about it, and is concerned about it. Scoring happens on a nine-point scale ranging from ‘disagree extremely’ to ‘agree extremely’. These separate scores are reverse scored where necessary<sup>31</sup> and combined to form the attitude importance per topic. Using a larger number of questions reduces the response bias (Zuwerink and Devine, 1996).

### **3.4 Measurement of attitude extremity**

Attitudes are measured by asking for the opinion the two topic statements. The subjects are presented with one statement per topic.<sup>32</sup> These statements come directly from the previously described Stemwijzer; they are not adjusted for the Dutch version and are translated as literally as possible for the English version. The Stemwijzer itself always attempts to be neutral, decreasing potential leading effects of the statements themselves. Answers are given on a hundred-and-one-point scale ranging from ‘strongly disagree’ to ‘strongly agree’. Such a scale is frequently used in other papers, especially when

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<sup>30</sup> To ensure that the topics are relevant to the probable sample of the experiment, the topics are compared to the ‘Jongerenkieswijzer’ (or the ‘Young adults voting tool’).

<sup>31</sup> This is the case for measure two and three of the four questions, which are both negatively phrased.

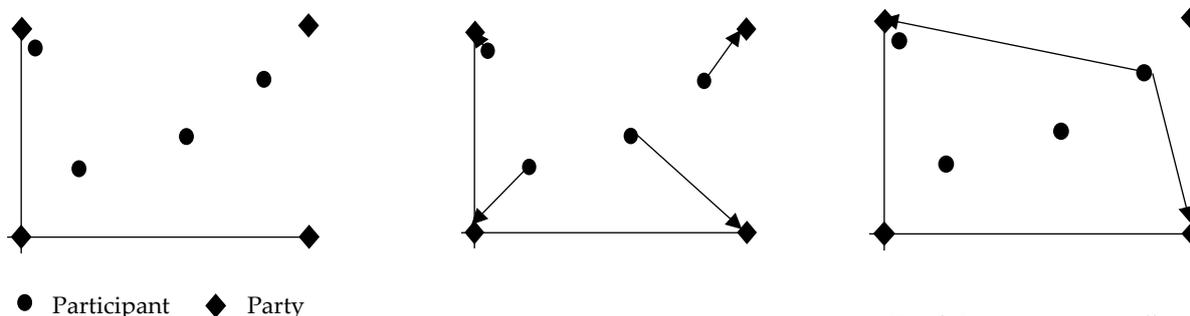
<sup>32</sup> The voting situation (see 3.5) will present the subjects with one statement per topic, as more statements on the same topic might confuse voters and/or complicate the analysis more than the extra data is useful. According to the same logic that leads us to employ multiple questions for attitude importance, we would prefer to use multiple questions, but the previous consideration leads us to only use one statement.

using the National Election Survey (such as Beasley & Joslyn, 2001). Using a hundred-point scale instead of a Likert scale has the advantage that subtle differences in opinion become easier to see – especially relevant when comparing opinions before and after voting.

### 3.5 Voting information

All subjects are presented with voting information, which here refers to information about the parties partaking in a hypothetical election. The participants are asked to imagine they will vote in an election, and are then presented with two parties (A and B) who have varying viewpoints on euthanasia and a meat tax. The parties will be selected as such that the programs of the parties will always contain one policy that corresponds to the attitudes of the participant, and one that is contrary to their attitudes.

As suggested in Acharya, Blackwell and Sen (2015), choice induced attitude change will only occur if the voters are forced to make a trade-off in their decision. Therefore, the survey presents the voter with two parties that agree with the subject on *one* of the statements and disagree on the other.<sup>33</sup> This manipulation is based on the attitudes indicated in the first round. If some subject scores an attitude above 50, he/she is placed in the ‘in favour’ group. If he/she scores it 50 or lower, he/she is placed in the ‘against’ group. A subject in favour of both statements will thus be presented with two parties that are in favour of one statement and against the other. A visual representation may clarify this further. Graph 1 shows the spectrum of opinions that a participant may have, with the attitude on meat on the x-axis and the y-axis representing the attitude on euthanasia. Participants can be all over the spectrum. In our example, parties can only be in favour of or against a statement; they can thus only take a place at the coordinates (0,0), (0, 100), (100, 0) or (100, 100). If participants are asked to vote, we assume they will move towards the party that is closest to their preferences (as seen in the second graph). This would not induce cognitive dissonance, as they would vote in accordance with their preferences. We therefore create the described groups, in which participants see two parties that are both somewhat dissonant with the participant’s original preferences (as seen in the third graph).



*Graph 1: Participants and parties in the two-dimensional plane of attitudes concerning euthanasia (y) and a meat tax (x)*

*Graph 2: Voting decisions of the participants (indicated by arrows towards parties)*

*Graph 3: Voting options offered to one participant (indicated by arrows towards parties)*

<sup>33</sup> This design is based on the theoretical framework from Acharya, Blackwell and Sen (2015), who explain the example of two attitudes on a Cartesian plane as in graph 1. They further discuss why voters may adjust their attitudes after voting in a two-party system if the party programs do not fit the attitudes from voters. The experimental manipulation such that a voter is always presented with two dissonance-inducing parties (not fitting their attitudes) is an addition of the author of this thesis.

### 3.6 Voting & voting conditions

To test the role of voting on choice induced attitude change, a treatment and control group are needed. Our experiment uses the Free Choice Paradigm (FCP), a paradigm used to test for cognitive dissonance, in which the participant of an experiment can freely choose between multiple options without those options being incentivized. Chen and Risen (2010) criticize the experiments conducted within this paradigm, arguing that the control and experimental conditions in the FCP are not comparable. Fortunately, they also offer options to remedy these faults in design. Their criticism will be briefly discussed, followed by the options we choose to remedy this issue in our design.

Chen and Risen's thesis is that observations are often excluded in case of choice reversal, which can only occur in the experimental condition where participants make a choice. Such an exclusion can lead to unintended effects of 'self-selection'. Furthermore, they argue that ratings and choices are imperfect measurements of preferences, such that a choice reversal does not have to indicate a change in preferences; it may merely show an informational effect. According to Chen and Risen (2010), the flawed methodology leads to a mismeasurement of the effect of choice on attitude change. While the control condition in the FCP often consists of a design where participants rate/rank objects twice, the papers suggests letting the control group choose between objects at the end of the experiment. The experimental condition then consists of a Rate-Choose-Rate (RCR) design, whereas the control condition consists of a Rate-Rate-Choose (RRC) design. This is the solution we use in our experiment to control for the revelation of information that Chen and Risen warn for. Furthermore, we do not exclude based on choice reversal.

After being presented with the information about the political parties (also referred to as 'voting information'), the group of subjects is thus randomly divided over two conditions. The first condition, which will be referred to as RCR, gets to vote on one of the parties right after seeing the voting information. They are presented with the same parties as in the voting information, and asked to choose between party A and B. After voting, they are presented with a small filler task to distract them, in the form of an IQ-puzzle, before once more providing their attitudes. The second condition, referred to as RRC, functions as the control group. It moves right from the voting information to the IQ-puzzle and requesting the attitude once more.<sup>34</sup> After filling in the attitude a second time, these subjects are also asked to vote.

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<sup>34</sup> Whereas the hypotheses use the terms 'pre-election' and 'post-election' attitudes, these can be interpreted as the 'first time an attitude is measured' and 'second time an attitude is measured' for the RRC-group.

### **3.7 Demographic questions**

At the end of the experiment, the subjects are asked a few standard demographic questions. These can be used in the analysis as control variables. These include age, gender, education, and language. Additionally, a few questions are asked on their personal values. These can be used to check whether attitude importance for these topics is correlated to self-interest or social values. Questions are thus asked about personally being vegetarian or vegan, and about friends or family considering euthanasia. Lastly, subjects are given the opportunity to enter their email address in case they want a chance to win money for their participation.

## 4. Experimental procedure

### 4.1 Procedure

All participants start with the same page where they are asked to choose their language. From that point onwards, the subjects are divided over different versions of the survey (independent of the language they chose). The most important randomization lies, as described in 3.4, in the randomization of the RRC- or RCR condition. To eliminate order effects, the order of questions concerning attitude importance and attitude extremity is randomized, as well as the order of topics. Subjects either get asked for their attitude regarding the two topics first, or they are first asked for their attitude importance on both topics. The topic that is given first for attitude extremity is also the topic that is given first for attitude importance. One half of the subjects is first asked for their opinion concerning euthanasia, the other half first gives their attitude extremity/importance on a tax on meat. Furthermore, the survey is split into different versions for the political party scenarios discussed in 3.4.

The survey thus looks as follows to the participant. Before even making his first choice, the participant is placed in either the RCR- or RRC-group. The participant fills in his preferred language. Then he fills in the questions about attitude extremity and attitude importance on euthanasia and a meat tax; he does not know, but the order of these questions is dependent on the randomization he is in. After filling in his attitudes, the survey calculates in which political party scenario he should fall, and he receives the accompanying voting information. If he was randomly placed in the RCR-group, he then votes, answers an IQ-puzzle, and subsequently fills in his attitude extremity. If he was placed in the RRC-group, he answers an IQ-puzzle, fills in his attitude extremity, and then votes. After this sequence, independent of which treatment condition he is in, he is asked to fill in a few demographic questions.

The randomized flow was thus meant to look as follows:<sup>35</sup>

Welcome	
Attitude & Attitude importance in randomized orders	
Voting information depending on attitudes	
Vote	IQ-Puzzle
IQ-Puzzle	Second rating
Second rating	Vote
Demographic questions	

Table 1: Simplified survey flow. The left group represents the flow for RCR, the right the flow for RRC

<sup>35</sup> This is a simplified version of the whole flow for the sake of understanding the most important parts. It does not specify the randomizations for extremity and importance and the topics a person is asked about first. A full version of that flow can be found in appendix C.

Unfortunately, due to a small mistake in the part of the Dutch survey flow with meat as the first topic, the RCR-group saw the IQ-puzzle, second rating, and vote in the order of the RRC flow. This means that whole group became a ‘control’ group rather than a control and treatment group. It has been coded accordingly in the dataset.

## 4.2 Descriptive statistics

The descriptive statistics are based on the 252 observations used for hypothesis testing; only the complete and included observations are thus used for the descriptive statistics.

### 4.2.1 General statistics

The dataset consists of 327 responses, 253 of which are complete. One complete observation was eliminated due to not being sensible. Of the 252 participants who completed the survey, 47% is male and 53% female. The respondents’ ages lie between 20 and 70, with an average age of 37 ( $S.D. = 14.1$ ). The participants mostly filled in the survey in Dutch: 87% of surveys was taken Dutch, and 13% in English. This largely corresponds to the distribution of mother languages in the sample: 91% of the participants spoke Dutch as their mother tongue, 4% spoke English as their first language and 5% spoke another language as their native language.

With the largest group (55%) having obtained/obtaining a master’s, the group was highly educated. 2% percent had only secondary education, 4% a so-called mbo-degree, 20% a hbo-degree, 12% a university bachelor’s degree, 5% a PhD and 3% something other.<sup>36</sup> Eighty percent of the subjects completed the survey between three and eleven minutes, with a median of approximately five minutes.<sup>37</sup>

### 4.2.2 Attitudes and voting

When filling in their attitudes the first time, 56% of the participants favored a tax on meat while 44% opposed it. On average, people scored their opinion 54.2 on a scale of 100 ( $S.D. = 33.5$ ).<sup>38,39</sup> For the topic of euthanasia, the opinions were far more divided: 88% favored it, while 12% opposed it. The average score was 76.6 ( $S.D. = 23.7$ ). Graph 4 shows the opinions concerning the opinion on euthanasia related to the opinions on a meat tax. Graph 5 and 6 show the distribution of the attitudes as indicated the first time, as well as the spread between both attitudes before and after.

On average, people scored their opinions on the topic of euthanasia more personally important than their opinions on a tax on meat ( $M = 6.4$ ,  $S.D. = 1.6$  and  $M = 5.4$ ,  $S.D. = 1.8$ , respectively). The

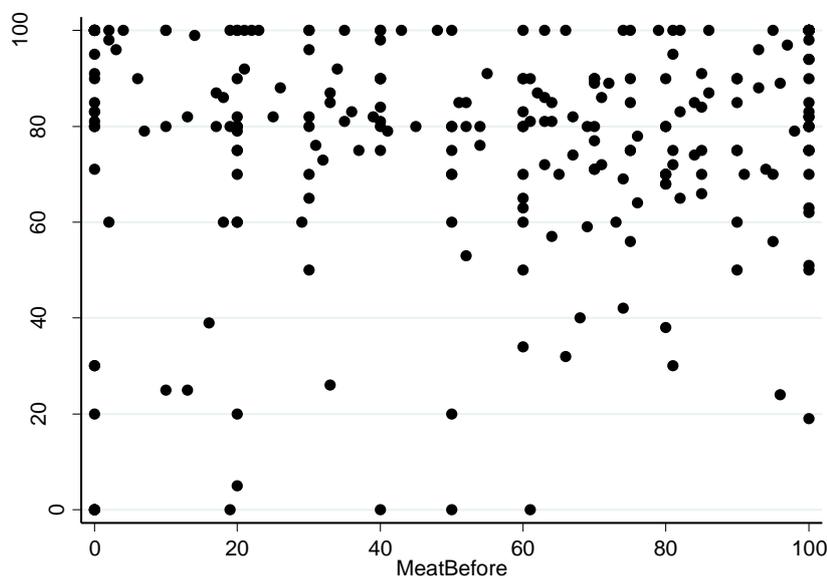
<sup>36</sup> Due to rounding of the percentages numbers, this adds up to 101%.

<sup>37</sup> As there is a long tail in this distribution, the mean of twelve minutes is not an informative measure to provide. A very long duration may be caused by that someone e.g. opens the survey in a tab but does not yet fill it in.

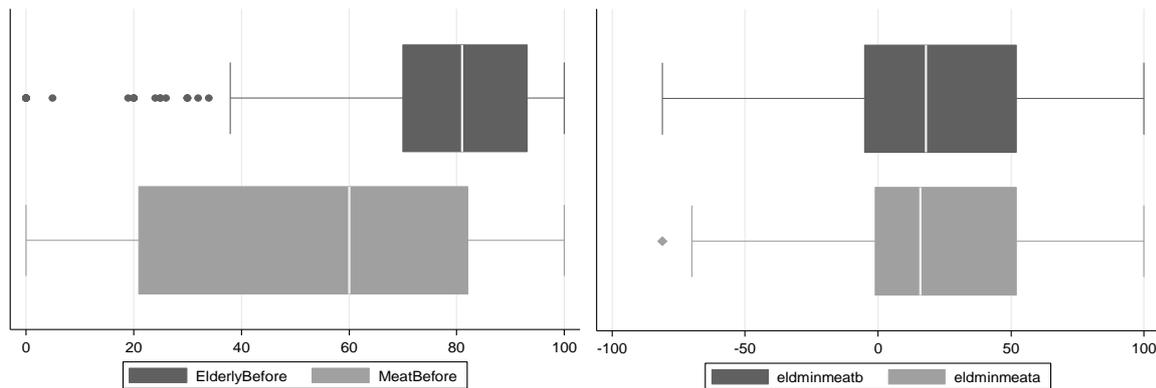
<sup>38</sup> 0 refers to disagreeing completely, and 100 to agreeing completely.

<sup>39</sup> As a small reminder, the exact statements were: “the tax on meat should be increased to a 21% VAT” and “elderly who feel their life is fulfilled should be able to get professional help to end their lives”

boxplots in graph 7 and 8 show the average attitude measures per topic, as well as the individual scores per measure. These measures are rated on a scale from 1 – 9, where 1 refers to completely disagreeing, and 9 refers to completely agreeing. Measures 2 and 3 are negatively phrased in the survey, but are reversed in their scaling for use in the analysis. The boxplots show their reversed scaling.

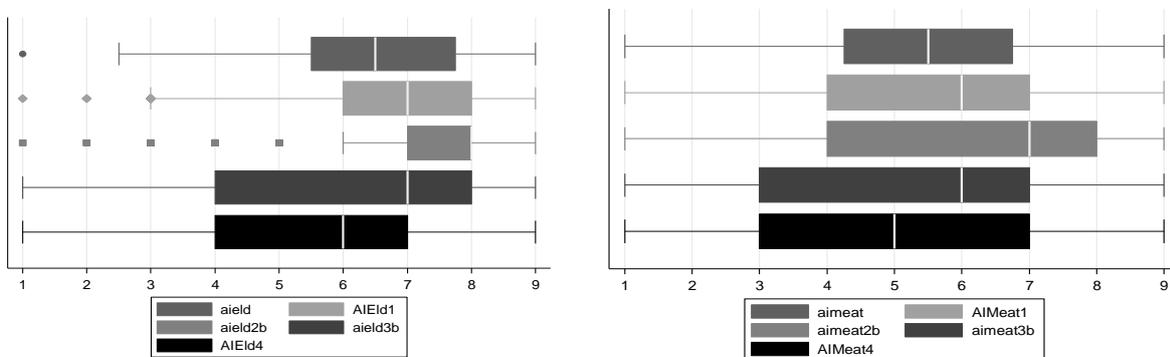


Graph 4: scatterplot of first indicated attitudes on a meat tax (*MeatBefore*) relative to euthanasia (*ElderlyBefore*)



Graph 5: boxplot of distribution of first indicated attitudes for euthanasia (*ElderlyBefore*) and a meat tax (*MeatBefore*).

Graph 6: boxplot of the spread between the attitudes for euthanasia and a meat tax at the first time of measurement (*eldminmeatb*) and the second (*eldminmeata*)



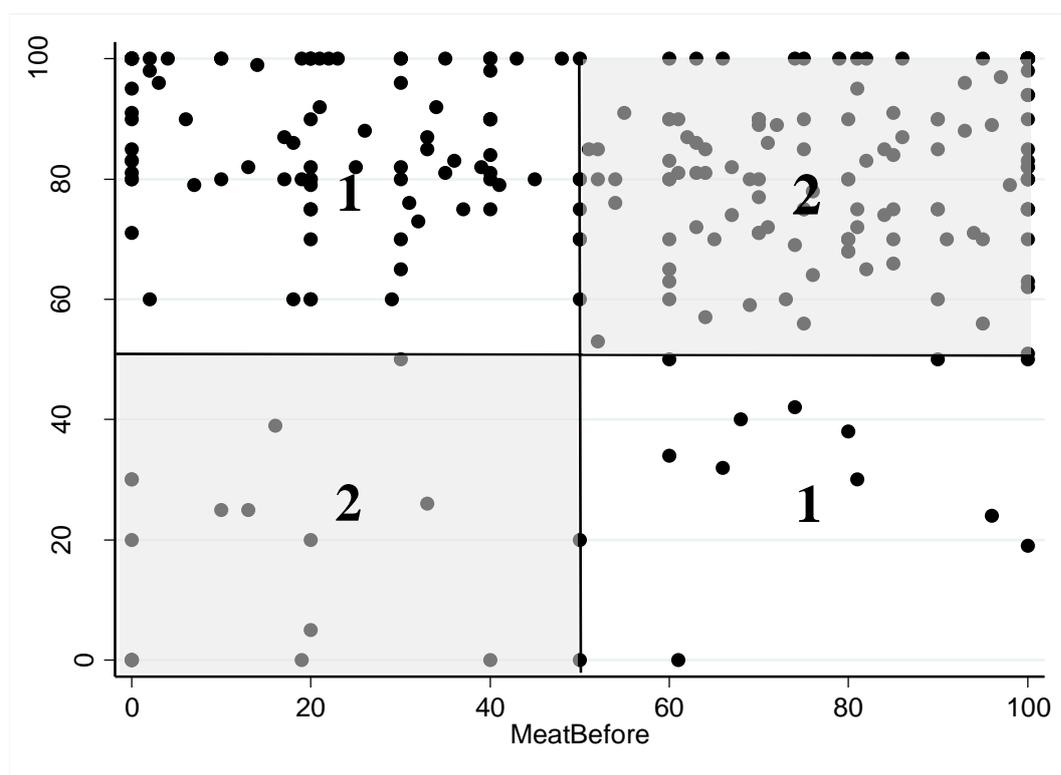
Graph 7: boxplot of the individual measures for attitude importance for the euthanasia (*aield1*, *2b*, *3b*, and *4* respectively), and the combined measure (*aield*). Question 2 and 3 are already reversed for this boxplot

Graph 8: boxplot of the individual measures for attitude importance for a meat tax (*aimeat 1*, *2b*, *3b*, and *4* respectively), and the combined measure (*aimeat*) Question 2 and 3 are already reversed for this boxplot

Later, in the analysis, three groups of observations will be created based on attitude importance. These groups show whether a participant has a high (above 5) attitude for both, one, or no measures. For 110 participants, both are important; for 122 only one attitude is important, and for 20, neither of the two attitudes is important.

A mistake in the survey flow put all the Dutch people who received the meat tax as a first topic in the RRC condition. Taking this into account, 72% of the participants who completed the survey therefore did so in the RRC (control) condition, and only did so 28% in the RCR condition.

Based on their attitudes, the subjects are divided into two political scenarios: in scenario 1 Party A is against both statements and Party B in favor of both statements. This scenario was given to the participants either in favor of a meat tax but not euthanasia, or vice versa – represented by the blank areas with a ‘1’ in graph 9. The parties that can be chosen are represented by the coordinates (0, 0) and (100, 100) in the graph below. In scenario 2, Party A was in favor of the statement on euthanasia, and against the tax on meat; Party B was of the opposite opinion. This scenario was given to the participants either in favor of both a meat tax and euthanasia, or opposing both topics - represented by the grey squares with a ‘2’ in graph 9. The parties are represented by the coordinates (100, 0) and (0, 100).



Graph 9: scatterplot of the first indicated attitudes on a meat tax relative to those on euthanasia; indicating in which political party scenarios the participants fall

Of the participants filling in the entire survey, 42% have attitudes placing them in scenario 1, and 58% has attitudes placing them in scenario 2. In scenario 1, 16% of the participants chose party A, which is in favor of both statements, and 84% chose party B. In scenario 2, 62% of the participants

chose party A, which is in favor of euthanasia, and 38% chose party B, in favor of a tax on meat. Our analysis concerns the change in attitude that occurs after a dissonant vote. The voting variable is therefore translated into four variables that indicate on which of the two topics casted a dissonant vote, and in which direction that vote was.<sup>40</sup> Only 76 people voted in discord with their attitude on the topic of euthanasia: 22 people voted for it while they initially opposed it, 54 people voted against it while they favored it. Most people, 176 to be exact, voted in discord with their attitude on the meat tax. Ninety people voted in favor of it while they opposed it and 86 people voted against it while they favored it.

#### 4.2.3 *Personal interests*

Twelve percent of the participants are vegetarian, 2% are vegan, and 86% are neither. However, 70% have family or friends that are vegetarian or vegan, whereas only 30% does not. 43% has had someone in their lives (such as friends or family) consider euthanasia, 57% has not. Surprisingly, all participants who filled out the survey also filled out this question, even though they were not obliged to.

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<sup>40</sup> The experiment is set up in such a way that the participant will always vote in accordance with his attitude on one of the topics, and will vote in discord with his attitude on another topic.

## 5. Results

This chapter contains two sections: one focusing on hypotheses testing, and one focusing on a further exploration of the data. The first section, hypotheses testing, will focus on the two hypotheses concerning attitude change as formulated in the literature review. It explains the regression used to test the hypotheses, and discusses the results. The output of the OLS regressions used shows no support for either of the hypotheses. The second section further explores the data to test construct validity, check against self-selection, and examine the influence of extreme values in the sample. These explorations are not intended to prove a hypothesis, but to judge the validity of the findings. Based on the conducted tests, the construct validity of attitude importance and extremity is adequate, there is no self-selection effect in attrition, and there are no ceiling effects.

### 5.1 Hypotheses testing

Both hypotheses are tested using an OLS regression. They are tested by regressing three independent variables measuring attitude change on an increasing range of dependent variables. These always include a dummy variable for RCR and are further complemented by multiple controlling variables – the exact variables depending on the model used. The assumptions underlying the Gauss-Markov theorem are tested and suitable adjustments are made for the violations found. Testing of the Gauss-Markov theorem is further discussed in appendix E.

#### 5.1.1 Hypothesis 1

Hypothesis 1 is formulated as the following null- and alternative hypotheses:  $H_{01}$ : *On average, the difference between pre- and post-election attitudes does not differ between voters and non-voters.*  $H_{A1}$ : *On average, the difference in pre- and post-election attitudes for two topics will be larger for voters than for non-voters.* In this experiment, such attitude change can be found on one of the individual attitudes, or on the total change for both. We thus test for attitude change with three measures as dependent variables. These are: the attitude on euthanasia, the attitude on a meat tax, and the change in spread between those two measures at the first and second time<sup>41</sup> of indicating the opinion (also referred to as ‘change in spread’ or ‘total change’). These measures are calculated according to the formulas below.

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<sup>41</sup> The second time of indicating an attitude is referred to as the ‘attitude after’. However, this attitude can also be measured before voting, if the person is in the RRC condition. However, ‘after’ is both shorter and more intuitive than ‘the second time the attitude is measured’, so ‘after’ is used.

*Attitude change on euthanasia = attitude on euthanasia after – attitude on euthanasia before*

*Attitude change on meat tax = attitude on meat tax after – attitude on meat tax before*

$$\text{Change in spread} = (\text{attitude on euthanasia after} - \text{attitude on meat tax after}) - (\text{attitude on euthanasia before} - \text{attitude on meat tax before})$$

A positive attitude change for euthanasia or for meat tax means that the attitude becomes more positive towards adopting such a policy. A negative change for these measures means a participant becomes more negative towards adopting the policy. A positive change in spread means that the difference between the attitude for euthanasia and meat tax becomes larger: e.g. by the attitude on euthanasia becoming more positive, or the attitude on meat tax becoming more negative.

The measures are tested with an OLS regression. To control for both individual conditions and conditions of the experiment, several control variables are added to the model. They are added in several steps – six to be precise, such that both the pure effects and the effect with controls can be examined. The first model only looks at the variables relevant to the hypothesis (RCR). The second adds three dummy variables for the types of votes the participants casted. Due to the nature of the design, participants cast a vote that is always dissonant with exactly one of their attitudes and consonant with the other attitude. The dummies indicate for which topic the vote was dissonant, and in which direction it was dissonant. The four possibilities are: dissonant vote in favor of euthanasia (meaning the participant's attitude is against euthanasia), dissonant vote against euthanasia, dissonant vote in favor of a meat tax, and dissonant vote against meat tax. The dissonant vote in favor of euthanasia is used as the reference group. The third model includes interaction effects of RCR with these three dummies. This addition tests whether the effect for dissonant votes differs between the RCR- and RRC-conditions. The interactions are only included in subsequent models when they are significant (which they are often not); when insignificant the analysis is rerun without them.<sup>42</sup> Model four adds the attitude importance for both topics. It also adds a dummy for the topic that the participant saw first, a 1 indicating euthanasia was the first topic. Model five and six add the personal variables. Model five adds the personal values of being vegetarian/vegan, having vegetarians/vegans in the surrounding, and of having (friends or family that) considered euthanasia. The other demographic variables of age, gender, and education are added in model six. The variables added in model five and six are only shown in the tables when they are significant; otherwise their inclusion is indicated with an x.

There are a few large outliers in the attitude change for euthanasia and the tax on meat, as discussed further in the data exploration. As a large share of the attitude change is centered around zero,

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<sup>42</sup> Generally, main effects are included first in a regression, only then to be followed by the interactions. While excluding a main effect is not allowed without removing the interaction, the opposite is allowed – and was advised in the statistics classes of the author. Furthermore, the interactions with RCR increase the VIF-score for RCR; if the interactions are not significant, it is thus better to leave them out.

a few large outliers may impact the coefficients and their significance in the regression. The analysis is therefore run with both the regular and with winsorized data. Winsorizing replaces a certain percentile in both tails by the largest value below that percentile. The winsorized data still shows that attitude change occurred, but shows a smaller value for the extreme values of change.<sup>43</sup> As we assume that the outliers are indeed inaccurate representations of the actual attitude change<sup>44</sup>, the results are shown for the analysis using data winsorized at the 5%-level. Tables showing the analyses on non-winsorized data and on data winsorized at the 1%-level are shown in appendix G. There are no large differences in (significance) of the findings between winsorized data and non-winsorized data - at least not for the variables relevant to the hypotheses.

Table 2 shows the results of the analysis for hypothesis 1. The six models mentioned are those described earlier. The three dependent variables are placed next to each other per model. The outcomes are discussed for the model that is best at predicting the dependent variable. This choice is based on the joint significance of the model (prob > F), and the (adjusted) R-squared. The choice of model may differ per dependent variable.

Looking at the joint significance of the models and the variance they explain, we see that none of the models fits the data very well. The best model for predicting the first two measures of attitude change is model 5 (with prob > F = .229 and adjusted R-squared = .023 for the topic of euthanasia, prob > F = .027 and adjusted R-squared = .043 for the topic of a meat tax) and model 6 for the total change (prob > F = .179 and adjusted R-squared = .023). The models for the attitude change for euthanasia and the total spread never become jointly significant.

In contrast with our hypothesis, the predictive variable of RCR does not become significant in any of the three models (with  $\beta = -0.008$ , S.E. = 0.40,  $p > .05$  for the attitude change for euthanasia;  $\beta = 0.564$ , S.E. = 0.56,  $p > .05$  for the attitude change for meat tax; and  $\beta = -0.84$ , S.E. = 0.79, and  $p > .05$  for the total spread). However, a few other variables are significant predictors of attitude change. A vote against a meat tax from a participant who initially favored the meat tax predicts a 2.787-point higher attitude change on the total spread (S.E. = 1.26,  $p < .05$ ) and a 1.953-point lower attitude change on the topic of a meat tax (S.E. = 0.87,  $p < .05$ ). Furthermore, being vegetarian predicts a 1.970-point higher attitude change on the topic of a meat tax, a change towards a more favorable attitude of a meat tax (S.E. = 0.75,  $p < .01$ ).

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<sup>43</sup> The other option to remove outliers would be to trim the data: deleting a certain percentile of the data. Generally, trimming is used when the outliers are expected to be erroneous (when e.g. no attitude change should have had occurred), whereas winsorizing is used when the outliers are unexpectedly large,

<sup>44</sup> For instance because of careless filling in of the survey. The treatment of outliers is further discussed in the discussion.

Table 2: the effects of RCR on attitude change for the sample data winsorized at the 5th percentile

	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6						
	Euthanasia b/se	Meat tax b/se															
Attitude change regarding:																	
RCR	-0.254 (0.34)	0.167 (0.50)	-0.266 (0.34)	0.203 (0.50)	-0.639 (0.69)	-1.153 (1.24)	-0.565 (1.81)	-3.212 (2.50)	-0.082 (0.39)	0.712 (0.56)	-0.97 (0.77)	-0.008 (0.40)	0.564 (0.56)	-0.751 (0.78)	0.007 (0.42)	0.713 (0.57)	-0.84 (0.79)
Dissonant vote against euthanasia			0.742 (0.61)	-0.928 (0.90)	2.362 (1.24)	0.515 (0.71)	-1.475 (1.04)	2.088 (1.43)	0.654 (0.57)	-0.909 (0.90)	2.299 (1.25)	0.318 (0.62)	-1.261 (0.92)	2.491 (1.29)	0.241 (0.66)	-1.216 (0.94)	2.412 (1.31)
Dissonant vote for meat tax			0.711 (0.58)	-0.324 (0.85)	1.639 (1.17)	0.555 (0.66)	-0.195 (0.97)	0.681 (1.34)	1.028 (0.58)	-0.321 (0.91)	1.802 (1.25)	0.883 (0.60)	-0.572 (0.90)	1.953 (1.26)	0.884 (0.63)	-0.476 (0.92)	1.929 (1.28)
Dissonant vote against meat tax			0.379 (0.58)	-1.614 (0.85)	2.754* (1.17)	0.09 (0.67)	-1.929* (0.98)	2.211 (1.35)	0.571 (0.54)	-1.656 (0.86)	2.890* (1.19)	0.414 (0.56)	-1.953* (0.87)	3.126* (1.22)	0.337 (0.60)	-1.696 (0.90)	2.787* (1.26)
Dissonant vote against euthanasia * RCR						0.972 (1.44)	2.025 (2.10)	1.524 (2.89)									
Dissonant vote for meat tax * RCR						0.725 (1.37)	-0.325 (2.00)	3.919 (2.75)									
Dissonant vote against meat tax * RCR						1.19 (1.37)	1.249 (2.00)	2.429 (2.76)									
Attitude importance euthanasia									-0.237 (0.12)	0.109 (0.16)	-0.219 (0.22)	-0.204 (0.12)	0.187 (0.16)	-0.316 (0.23)	-0.227 (0.13)	0.284 (0.17)	-0.421 (0.24)
Attitude importance meat tax									0.046 (0.09)	0.071 (0.14)	-0.038 (0.20)	0.021 (0.09)	0.023 (0.15)	-0.003 (0.20)	0.025 (0.09)	0.021 (0.15)	0.001 (0.21)
Euthanasia as first topic									-0.507 (0.35)	-0.988 (0.50)	0.564 (0.70)	-0.506 (0.35)	-0.85 (0.51)	0.349 (0.71)	-0.487 (0.35)	-0.837 (0.51)	0.447 (0.72)
Vegetarian											0.782 (0.67)	1.970** (0.75)	-1.525 (1.05)	0.688 (0.66)	2.115** (0.76)	-1.833 (1.06)	
Other values (vegan, vegetariansur, euthanasiacons)											x	x	x	x	x	x	x
Demographic variables (Age, gender, education) constant																	
F	0.691*** (0.18)	0.11 (0.27)	0.68 (0.52)	0.59 (0.77)	-1.173 (1.06)	0.353 (0.59)	0.765 (0.86)	-0.588 (1.19)	1.469 (0.99)	-0.121 (1.43)	0.148 (1.98)	1.814 (1.03)	0.166 (1.46)	0.274 (2.04)	1.399 (1.29)	-0.8 (2.58)	0.285 (3.60)
dfres	250	250	247	247	247	244	244	244	244	244	244	240	240	240	232	232	232
prob > F	0.455	0.741	0.409	0.125	0.132	0.813	0.149	0.189	0.248	0.095	0.249	0.229	0.027	0.208	0.417	0.039	0.179
Rsqr	0.002	0	0.003	0.011	0.029	0.015	0.043	0.04	0.037	0.048	0.036	0.066	0.085	0.057	0.074	0.122	0.097
Radj	-0.002	-0.004	-0.001	-0.005	0.013	-0.013	0.015	0.012	0.009	0.021	0.008	0.023	0.043	0.014	-0.001	0.05	0.023

\* p<0.05 \*\* p<0.01 \*\*\* p<0.001

### 5.1.2 Hypothesis 2

The second null hypothesis and alternative hypothesis are formulated as follows:  $H_{02}$ : *on average, the difference in pre- and post-election attitudes does not differ between voters with a high attitude importance and voters with a low attitude importance.*  $H_{A2}$ : *On average, the difference in pre- and post-election attitudes differs between voters with a high attitude importance and voters with a low attitude importance.* As seen in the literature review, the few other papers who have discussed such an influence on choice induced attitude change use choice pairs of e.g. ‘high-high’ and ‘high-low’ attitude importance. In the three options for these choice pairs, two attitudes can be both high in importance, low in importance, or one can be low and the other can be high. Following this method, we regress attitude change on dummy variables for high-high, low-low, and high-low attitude importance. More importantly, we regress them on interactions of these dummies with the treatment condition<sup>45</sup>. The measures for attitude change are the same as used for hypothesis 1. We also investigate whether an interaction with the continuous measurement for attitude importance shows different results. For this analysis, the measures for attitude importance concerning euthanasia and the meat tax are combined with RCR to an interaction term. The results for the first analysis can be found in table 3. The results for the second analysis can be found in table 4. Once again, the analysis uses the data winsorized at the 5%-level. The analyses using non-winsorized data and data winsorized at the 1%-level can be found in appendix G.

Important to note is that the interaction effects of attitude importance and RCR are kept in the models during analysis, even if they are not significant. While testing hypothesis 1, interactions effects such of RCR with the vote for euthanasia or meat, or of RCR with the political party scenario were taken out of the model if not significant. However, the interactions including attitude importance are the focal point of the analysis for the second hypothesis – taking them out does not provide value to our model. They might perhaps influence the significance of other factors, but those factors are not the ones we are interested in for this hypothesis. Being aware of the influence of keeping in these interactions, we will not take the coefficients of other predictors too seriously – they are better represented in the testing of hypothesis 1.

As in the testing of hypothesis 1, none of the models fits the data well, the predictors often not even being jointly significant. In the analysis with attitude importance as a discrete variable, the best fitting models are model five (for the attitude change on euthanasia and the meat tax) and model six (for total change in spread) (with  $\text{prob} > F = .232$ , adjusted R-squared = .029;  $\text{prob} > F = .012$ , adjusted R-squared = .057; and  $\text{prob} > F = .089$  and adjusted R-squared = .038 respectively). The same is the case for the analysis with attitude importance as a continuous variable (with  $\text{prob} > F = .352$ , adjusted R-squared = .019;  $\text{prob} > F = .063$ , adjusted R-squared = .035; and  $\text{prob} > F = .234$  and adjusted R-

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<sup>45</sup> The low-low group is chosen as a reference group

squared = .018 respectively). Interesting to note is that the second method used – that of continuous variables for attitude importance – shows a worse fit than the models using dummy variables.

No effect is found for RCR in either of the two types of analysis. Furthermore, none of the methods show an effect for the interaction between attitude importance for one of the topics and the amount of attitude change. In the analysis using attitude importance as a discrete variable, the dummy variable for high and high attitude importance predicts a 3.958-point lower score on total change (S.E. = 1.45,  $p < .01$ ). Likewise, the dummy variable for high and low attitude importance predicts a 2.880-point lower score on total change (S.E. = 1.43,  $p < .05$ ). However, a test of the coefficients for high-high and high-low attitude importance shows that these coefficients do not differ significantly ( $F(1, 230) = 1.85$ ,  $\text{prob} > F = .175$ ).<sup>46</sup>

A dissonant vote against a meat tax predicts a 2.446-point higher change in total spread (S.E. = 1.22,  $p < .05$ ) and a 1.827-point lower attitude change for meat tax (S.E. = 0.85,  $p < 0.05$ ). Being vegetarian predicts a 1.811-point higher score for attitude change on meat tax (S.E. = 0.74,  $p < .05$ ). The dissonant vote against a meat tax is also a significant predictor of attitude change in the analysis using attitude importance as a continuous variable. It follows the same pattern as in the former analysis, by predicting a 2.808-point higher score on total change in spread (S.E. = 1.26,  $p < .05$ ). It also predicts a 1.953-point lower score on attitude change on meat tax (S.E. = 0.88,  $p < .05$ ). Being vegetarian also predicts a 1.958-point higher score on attitude change for a meat tax (S.E. = 0.76,  $p < .05$ ).

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<sup>46</sup> There are only 20 observations in the group with low-low attitude importance, while there are 110 observations high-high attitude importance and 122 for high-low attitude importance. The more extreme values often fall in the groups of high-high or high-low attitude importance, which could be due to the effect of the variable itself, but could – with such a small group – also be a matter of chance.

Table 3: the interaction effect of attitude importance and RCR on attitude change for the sample data winsorized at the 5th percentile

Attitude change regarding:	Model 1			Model 2			Model 3			Model 4			Model 5			Model 6		
	Euthanasia	Meat tax	Total	Euthanasia	Meat tax	Total	Euthanasia	Meat tax	Total									
	b/se	b/se	b/se	b/se	b/se	b/se	b/se	b/se	b/se									
RCR	-1.214 (2.01)	-0.405 (1.75)	-2.524 (3.08)	-1.108 (2.02)	-0.449 (1.74)	-2.322 (2.39)	-2.006 (2.71)	-0.616 (2.38)	-5.278 (3.28)	-0.87 (2.04)	0.041 (1.75)	-2.598 (2.42)	-0.668 (2.03)	0.413 (1.74)	-2.873 (2.43)	-0.549 (2.17)	0.427 (1.76)	-2.742 (2.45)
High-high attitude importance	-1.771 (0.94)	1.03 (1.04)	-3.091* (1.56)	-1.676 (0.94)	1.283 (1.04)	-3.238* (1.43)	-1.672 (0.94)	1.33 (1.04)	-3.336* (1.43)	-1.721 (0.93)	1.191 (1.03)	-3.187* (1.43)	-1.704 (0.91)	1.593 (1.03)	-3.683* (1.44)	-1.752 (0.92)	1.816 (1.04)	-3.958** (1.45)
High-low attitude importance	-1.544 (0.95)	0.44 (1.03)	-2.403 (1.59)	-1.528 (0.95)	0.478 (1.02)	-2.431 (1.41)	-1.527 (0.95)	0.461 (1.02)	-2.411 (1.41)	-1.602 (0.94)	0.324 (1.02)	-2.345 (1.41)	-0.91 (0.91)	0.455 (1.01)	-2.493 (1.41)	-1.677 (0.93)	0.682 (1.03)	-2.880* (1.43)
High-high attitude importance * RCR	1.126 (2.06)	0.949 (1.91)	2 (3.23)	0.973 (2.08)	1.035 (1.90)	1.671 (2.62)	0.804 (2.19)	0.535 (1.92)	1.956 (2.65)	0.924 (2.08)	0.934 (1.89)	1.728 (2.62)	0.744 (2.09)	0.113 (1.90)	2.477 (2.64)	0.627 (2.22)	0.388 (1.93)	2.11 (2.69)
High-low attitude importance * RCR	0.956 (2.06)	0.335 (1.90)	2.216 (3.24)	0.847 (2.08)	0.428 (1.88)	1.956 (2.59)	0.722 (2.17)	0.166 (1.90)	1.922 (2.61)	0.878 (2.08)	0.492 (1.87)	1.92 (2.59)	0.763 (2.07)	0.13 (1.86)	2.298 (2.59)	0.655 (2.22)	0.212 (1.88)	2.157 (2.62)
Dissonant vote against euthanasia				0.704 (0.55)	-0.879 (0.91)	2.215 (1.25)	0.417 (0.51)	-1.286 (1.04)	1.797 (1.43)	0.711 (0.55)	-0.864 (0.90)	2.207 (1.25)	0.306 (0.61)	-1.146 (0.92)	2.289 (1.29)	0.227 (0.64)	-1.073 (0.94)	2.21 (1.31)
Dissonant vote for meat tax				0.652 (0.49)	-0.124 (0.85)	1.39 (1.17)	0.463 (0.39)	0.064 (0.98)	0.34 (1.35)	0.65 (0.49)	-0.129 (0.85)	1.393 (1.17)	0.593 (0.51)	-0.146 (0.84)	1.313 (1.18)	0.577 (0.53)	0.047 (0.86)	1.194 (1.20)
Dissonant vote against meat tax				0.403 (0.49)	-1.663 (0.85)	2.791* (1.17)	0.1 (0.39)	-1.906 (0.97)	2.206 (1.34)	0.403 (0.49)	-1.662 (0.85)	2.790* (1.17)	0.264 (0.51)	-1.827* (0.85)	2.873* (1.18)	0.156 (0.54)	-1.501 (0.88)	2.446* (1.22)
Dissonant vote against euthanasia * RCR				1.238 (1.68)	1.587 (2.12)	2.002 (2.91)												
Dissonant vote for meat tax * RCR				0.876 (1.63)	-0.535 (2.00)	4.227 (2.75)												
Dissonant vote against meat tax * RCR				1.284 (1.65)	1.003 (2.00)	2.6 (2.75)												
Euthanasia as first topic				-0.471 (0.35)	-0.971 (0.50)	0.545 (0.69)												
Vegetarian				0.887 (0.65)	1.881* (0.74)	-1.426 (1.03)												
Vegan				2.439* (1.17)	-1.815 (1.51)	3.568 (2.10)												
Other values (vegetariansur, euthanasiacons)				x	x	x												
Demographic variables (Age, gender, education)				x	x	x												
constant				x	x	x												
F	2.214* (0.92)	-0.929 (0.96)	3.357* (1.49)	1.647 (0.97)	-0.268 (1.21)	1.53 (1.66)	1.875* (0.92)	-0.18 (1.27)	2.225 (1.75)	1.882 (0.97)	0.215 (1.22)	1.259 (1.70)	2.242* (0.97)	0.422 (1.26)	1.26 (1.76)	1.69 (1.16)	-0.663 (2.30)	1.085 (3.21)
dfres	0.83	0.87	1.07	0.75	1.71	1.69	0.6	1.51	1.51	1.02	1.96	1.57	1.27	2.16	1.59	1.17	1.8	1.47
prob > F	0.528	0.503	0.38	0.651	0.096	0.102	0.832	0.129	0.129	0.427	0.045	0.126	0.232	0.012	0.09	0.283	0.019	0.089
R-sqr	0.029	0.017	0.024	0.036	0.053	0.053	0.04	0.065	0.065	0.043	0.068	0.055	0.079	0.106	0.08	0.089	0.141	0.118
R-adj	0.009	-0.003	0.004	0.004	0.022	0.021	-0.004	0.022	0.022	0.008	0.033	0.02	0.029	0.057	0.029	0.005	0.063	0.038

\* p<0.05 \*\* p<0.01 \*\*\* p<0.001

Table 4: the interaction effect of attitude importance and RCR on attitude change for the sample data winsorized at the 5th percentile

Attitude change regarding:	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6							
	Euthanasia b/se	Meat tax b/se	Total b/se															
RCR	-0.259 (2.39)	-1.359 (2.71)	-1.14 (3.71)	-0.144 (2.37)	-1.328 (2.70)	-0.933 (3.71)	-0.74 (2.96)	-1.149 (3.18)	-3.841 (4.39)	0.133 (2.38)	-0.829 (2.70)	-1.187 (3.73)	0.621 (2.36)	0.287 (2.71)	-1.973 (3.77)	0.846 (2.50)	0.879 (2.77)	-2.319 (3.85)
Attitude importance euthanasia	-0.221 (0.13)	0.133 (0.18)	-0.327 (0.24)	-0.25 (0.14)	0.129 (0.19)	-0.342 (0.26)	-0.27 (0.15)	0.065 (0.19)	-0.286 (0.27)	-0.279 (0.14)	0.077 (0.19)	-0.316 (0.26)	-0.231 (0.13)	0.185 (0.20)	-0.437 (0.27)	-0.245 (0.15)	0.296 (0.20)	-0.551 (0.28)
Attitude importance meat tax	0.014 (0.08)	-0.051 (0.15)	0.058 (0.20)	0.07 (0.09)	0.006 (0.16)	0.047 (0.22)	0.093 (0.09)	0.081 (0.17)	-0.029 (0.23)	0.088 (0.09)	0.037 (0.16)	0.031 (0.22)	0.067 (0.09)	0.015 (0.16)	0.047 (0.23)	0.072 (0.10)	0.017 (0.16)	0.054 (0.23)
Attitude importance euthanasia * RCR	0.114 (0.25)	0.06 (0.32)	0.338 (0.43)	0.098 (0.24)	0.067 (0.32)	0.297 (0.43)	0.125 (0.26)	0.216 (0.34)	0.077 (0.46)	0.118 (0.24)	0.103 (0.31)	0.279 (0.43)	0.072 (0.24)	0.009 (0.31)	0.348 (0.44)	0.048 (0.25)	-0.034 (0.32)	0.38 (0.45)
Attitude importance meat tax * RCR	-0.137 (0.22)	0.215 (0.31)	-0.293 (0.42)	-0.144 (0.22)	0.207 (0.30)	-0.297 (0.42)	-0.223 (0.23)	-0.057 (0.34)	-0.023 (0.47)	-0.17 (0.22)	0.161 (0.30)	-0.273 (0.42)	-0.193 (0.22)	0.04 (0.30)	-0.171 (0.42)	-0.206 (0.23)	0.008 (0.31)	-0.164 (0.43)
Dissonant vote against euthanasia		0.65 (0.56)	-0.935 (0.91)	2.238 (1.26)	2.238 (1.26)	2.238 (1.26)	0.297 (0.51)	-1.445 (1.06)	1.885 (1.45)	0.639 (0.55)	-0.955 (0.91)	2.249 (1.26)	0.32 (0.61)	-1.267 (0.93)	2.431 (1.29)	0.253 (0.64)	-1.212 (0.94)	2.375 (1.31)
Dissonant vote for meat tax		0.99 (0.57)	-0.396 (0.91)	1.815 (1.26)	1.815 (1.26)	1.815 (1.26)	0.928 (0.50)	-0.09 (1.04)	0.834 (1.44)	1.023 (0.57)	-0.337 (0.91)	1.785 (1.26)	0.878 (0.59)	-0.573 (0.91)	1.932 (1.26)	0.894 (0.62)	-0.476 (0.92)	1.933 (1.28)
Dissonant vote against meat tax		0.546 (0.53)	-1.694 (0.87)	2.882* (1.20)	2.882* (1.20)	2.882* (1.20)	0.279 (0.44)	-1.913 (0.99)	2.336 (1.37)	0.562 (0.53)	-1.666 (0.87)	2.867* (1.20)	0.41 (0.55)	-1.953* (0.88)	3.113* (1.22)	0.355 (0.59)	-1.697 (0.91)	2.808* (1.26)
Dissonant vote against euthanasia * RCR				1.377 (1.81)	1.732 (2.13)	1.938 (2.94)												
Dissonant vote for meat tax * RCR				0.443 (1.93)	-0.95 (2.17)	4.101 (2.99)												
Dissonant vote against meat tax * RCR				1.133 (1.87)	0.835 (2.07)	2.579 (2.85)												
Euthanasia as first topic				-0.543 (0.35)	-0.976 (0.51)	0.498 (0.70)												
Vegetarian																		
Other values (vegan, vegetariansur, euthanasiacons)																		
Demographic variables (Age, gender, education) constant																		
F	2.045* (1.03)	-0.846 (1.42)	2.641 (1.95)	1.251 (1.05)	-0.223 (1.62)	0.711 (2.23)	1.443 (0.99)	-0.145 (1.68)	1.365 (2.31)	1.534 (1.04)	0.286 (1.63)	0.451 (2.26)	1.773 (1.04)	0.225 (1.65)	0.849 (2.30)	1.393 (1.29)	-0.852 (2.65)	0.841 (3.69)
dires	0.81	0.33	0.59	0.77	1.11	1.18	0.71	1.12	1.05	1.04	1.41	1.11	1.11	1.69	1.18	0.95	1.52	1.22
dires > F	2.46	2.46	2.46	2.43	2.43	2.43	2.40	2.40	2.40	2.42	2.42	2.42	2.38	2.38	2.38	2.30	2.30	2.30
R-sqr	0.545	0.895	0.708	0.628	0.357	0.31	0.729	0.348	0.4	0.409	0.186	0.36	0.352	0.063	0.292	0.531	0.073	0.234
R-adj	0.019	0.007	0.012	0.031	0.035	0.037	0.037	0.049	0.046	0.041	0.05	0.039	0.07	0.085	0.061	0.078	0.122	0.1
R-adj	-0.001	-0.014	-0.008	-0.001	0.003	0.006	-0.007	0.005	0.002	0.005	0.014	0.004	0.019	0.035	0.009	-0.006	0.041	0.018

\* p<0.05 \*\* p<0.01 \*\*\* p<0.001

## 5.2 Data exploration

This section further examines the data used for the analyses. It does so with two reasons: to ensure that the experiment measures what it intends to measure and that the effects (not) found can be retraced to the manipulations of our experiment rather than to for instance self-selection effects.<sup>47</sup> Three types of inspections are conducted: inspection of self-selection effects; of outliers and other extreme values, and of construct validity. Based on the analyses described below, we can assume that the effects seen in the hypotheses testing are not the result of self-selection processes or extreme values, and that the constructs used to measure attitude extremity and attitude importance relate to other variables in the expected ways. As these explorations are supplemental rather than the focus of this thesis, the findings are discussed in brief. Additional details, such as regression tables, can be found in appendix F.

### 5.2.1 Self-selection

A considerable number of participants did not complete the survey. Of the 74 people who quit the survey prematurely, 54 quit before completing their attitudes and the related importance. Of the twenty people who quit after seeing the voting information, 7 were in political party scenario 1 and 13 in scenario 2. Furthermore, 18 of these participants were in the RRC-condition and 2 in the RCR-condition. A logistic regression shows that participants did not self-select out of the experiment as a result of the RCR-condition, political party scenario, or their attitudes.<sup>48</sup>

### 5.2.2 Extreme values

During inspection of the initial attitudes, it stands out that a large share of the attitudes indicated are placed on the extremes of the spectrum. Approximately 23% of the observations contain extreme scores, defined as a 0 or 100 on one or both measure(s) of attitude extremity. More specifically, 11% of the participants scored their attitudes at the extreme points of two measures.<sup>49</sup> The extreme values expressed in the initial attitudes leave relatively little room for attitude change during the experiment, which raises concerns for ceiling or floor effects. A one-way ANOVA shows that attitude change was not influenced by participants having initially extreme attitudes.<sup>50</sup> There are thus no statistically significant floor or ceiling effects.

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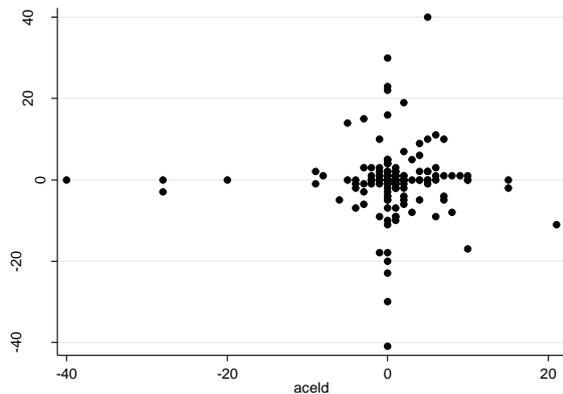
<sup>47</sup> These examinations are in addition to the testing of the assumptions of the Gauss-Markov theorem, which can be found in appendix E.

<sup>48</sup> The regression can be found in appendix F.

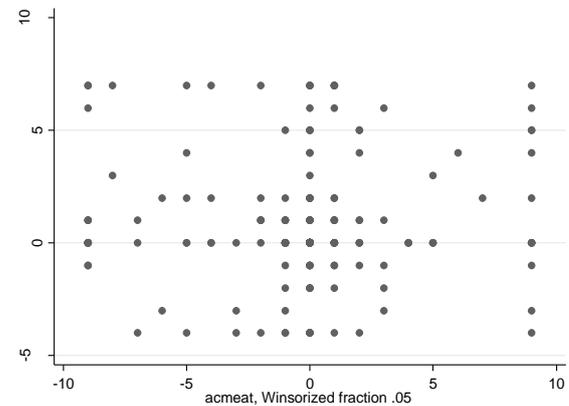
<sup>49</sup> The table showing the distribution of these extreme values and the ANOVA conducted can both be found in appendix F.

<sup>50</sup> There was no significant effect of having one or two attitudes at either 0 or 100 on the attitude change for the meat tax ( $F(1, 251) = .05, p = .815$  for the model;  $\beta = -0.145, S.E. = 0.62, p > .05$ ) or the attitude change for euthanasia ( $F(1, 251) = 2.35, p = .126$  for the overall model;  $\beta = -0.708, S.E. = 0.46, p > .05$ ).

The measures for attitude change on meat tax and euthanasia also show extreme values.<sup>51,52</sup> These can be seen in graph 12. To ensure that the outliers do not influence the inference drawn from the regression, the regressions are repeated with winsorized data.<sup>53</sup> The distribution of attitude change in the winsorized dataset can be seen in graph 13. The analyses using this data, compared to the original analyses, do not show different significance levels for the coefficients.<sup>54</sup>



Graph 12: scatterplot for the attitude change for euthanasia (aceld) and a meat tax (acmeat) for non-winsorized data



Graph 13: scatterplot for the attitude change for euthanasia (aceld) and a meat tax (acmeat) for data winsorized at the 5%-level

### 5.2.3 Construct validity

The experiment measures attitude importance and attitude extremity with methods that have been tried and tested in previous studies. This provides some basis to believe that the method of measuring the constructs is valid. To further examine this, we test whether the relations that should hold between the attitudes and other constructs hold as expected.

As described by Boninger, Krosnick, & Berent (1995), attitude importance is related to material self-interest, identification with reference groups, and relevance for personal values. Assuming our constructs are valid, these relations are expected to hold within our sample. Two regressions verify this. The first regression finds that participants who did have friends or family discuss euthanasia have a 0.909-point higher attitude importance (S.E. = .190,  $p = .000$ ) than participants who did not. The second regression shows that the attitude importance of the attitude on a meat tax is significantly and positively predicted by being vegetarian and/or having vegetarians/vegans among friends and family. Being vegetarian increases the average attitude importance with 1.231 (S.E. = .337,  $p = .000$ ) relative to not being vegetarian. Having vegetarians among friends and family predicts a .49 higher score on attitude

<sup>51</sup> As the other measure is based on these two measures, these are the ones inspected for outliers.

<sup>52</sup> Both the distributions for attitude change on euthanasia and on a meat tax have fat tails, with kurtosis of 28.650 and 17.365 respectively

<sup>53</sup> Both winsorizing and trimming can be used to remove outliers. However, winsorizing transforms the outliers into other – less extreme values, under the assumption that the outliers are simply more extreme but not erroneous or faulty observations. Trimming would simply cut these values from the sample.

<sup>54</sup> The analyses conducted with non-winsorized data and data winsorized at the 1%-level can be found in appendix G.

importance (S.E. = .243,  $p = .043$ ) than not having vegetarians among friends and family. The relations between attitude importance and its predictors thus hold as expected, which supports the idea of our constructs being valid.<sup>55</sup>

Attitude importance and extremity being two dimensions of the same construct and often correlated (Eaton & Visser, 2008), they are expected to also be correlated in our sample. With  $r(270) = .158$  and  $p = .0090$ , the correlation between attitude importance and extremity for euthanasia is small but significant.<sup>56</sup> Only 2.5% of the variation is explained by the correlation. The correlation between importance and extremity for the topic of a meat tax is of a medium size, with  $r(270) = .332$  and  $p = .0000$ . Eleven per cent of the variance is explained by the correlation.

Based on research stating that attitudes influence voting behavior (e.g. Ajzen & Fishbein, 1977; Vecchione et al., 2013), the extremity and importance of attitudes are expected to predict the voting decision.<sup>57</sup> This is validated with four logistic regressions: one for each type of the dissonant votes participants can cast. These dependent variables are regressed on the attitude importances and attitude extremities.<sup>58</sup> Both attitude extremity and attitude importance are often significant predictors of the voting decision. When a person has a lower original attitude on topic A or a higher attitude on topic B, he/she becomes more likely to cast the dissonant vote against topic A. This is both seen in the analysis for dissonant votes against euthanasia ( $\beta = -0.068$ , S.E. = 0.02 and  $p < .001$  for the original attitude on euthanasia;  $\beta = 0.078$ , S.E. = 0.02 and  $p < 0.001$  for the original attitude on a meat tax) and in the analysis for a dissonant vote against a meat tax ( $\beta = 0.048$ , S.E. = 0.01 and  $p < .001$  for the original attitude on euthanasia;  $\beta = -0.058$ , S.E. = 0.02 and  $p < 0.01$  for the original attitude on a meat tax). Furthermore, a higher attitude importance on the topic of euthanasia, or a lower one meat tax predicts a higher chance of casting a dissonant vote in favor of a meat tax ( $\beta = 0.789$ , S.E. = 0.23 and  $p < .001$ ;  $\beta = -0.846$ , S.E. = 0.24 and  $p < 0.001$ , respectively). A higher attitude importance for euthanasia also predicts a higher chance of casting a dissonant vote against a meat tax ( $\beta = 0.393$ , S.E. = 0.15 and  $p < .01$ ). No such results are found for the chance of casting dissonant votes for or against euthanasia.

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<sup>55</sup> These regressions should, however, not be used to deduce causality. After all, a higher attitude importance of topics related to meat may also cause a person to become vegetarian. Likewise, a higher attitude importance for euthanasia may increase the likelihood of discussing the topic with friends and family

<sup>56</sup> According to the guidelines provided by Cohen (1988)

<sup>57</sup> This is not directly a test of construct validity, but is put under the same header as it concerns how the constructs relate to each other.

<sup>58</sup> Not every participant is able to cast a dissonant vote against e.g. euthanasia: that is only possible if his/her attitude is originally in favor of euthanasia. This is taken into account by conducting the respective regressions only for the subgroups who could potentially cast the vote used as dependent variable.

## 6. Discussion

To summarize, this thesis researches whether voting can induce attitude change, and whether such attitude change is influenced by attitude importance. It adds to the literature in three ways: by using an experimental approach rather than analyzing an existing dataset, by investigating the role of attitude importance, and by looking at effects on the attitudes regarding political issues rather than attitudes regarding candidates.

The hypotheses are tested with an experiment in the form of a survey. The survey measures attitude extremity and attitude importance, asks part of the sample to vote, measures attitude extremity again, and then asks the other part of the sample to vote. Based on the measurements, three measures of attitude change are calculated. These dependent variables are: the attitude change for euthanasia, attitude change for a meat tax, and the change in the difference between the attitudes for euthanasia and a meat tax. Both hypotheses are tested by regressing the three measures of attitude change on a variety of independent variables. Both analyses are conducted with winsorized and non-winsorized data. Where possible, the method used is corrected for the violation of the assumptions underlying OLS.

The first hypothesis predicts that: *on average, the difference in pre- and post-election attitudes will be larger for voters than for non-voters.* Regressing the measures of attitude change, we expect to find an effect for RCR. The effect found for RCR in hypothesis 1 is only present in the case of using data including outliers; once the data is winsorized these coefficients are no longer significant. The second hypothesis predicts that: *on average, the difference in pre- and post-election attitudes differs between voters with a high attitude importance and voters with a low attitude importance.* It is tested in two ways. In the first analysis we expect to find an effect for RCR and for the interactions between RCR and high-high or high-low attitude importance. In the second analysis we expect effects for RCR and for the interactions between RCR and attitude importance (for euthanasia or meat). Contrary to our expectations, no consistently significant effect is found for any of these variables or interactions. Based on the conducted analyses, we cannot refute the null hypotheses of no effect of voting on attitude change, and no influence from attitude importance on the influence of voting on attitude change.

Next to hypotheses testing, a small effect is visible for a dissonant vote against the meat tax, for being vegetarian, and for the combinations of high-high or high-low attitude importance.<sup>59</sup> Asking participants about their attitudes may draw a degree of attention to these attitudes that is likely to make them more salient than ordinarily expected, and perhaps for some people considering their attitudes under these circumstances leads to attitude change.<sup>60</sup> If purely thinking about an attitude might affect an attitude, being vegetarian or having a combination of high-high or high-low attitude importance can

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<sup>59</sup> These effects are present for the total change in spread, and at times also for the attitude change on the topic of the meat tax.

<sup>60</sup> This is exactly why we control for the effects that might occur separate from the influence of the choice itself.

perhaps interact with this effect. The suggestions mentioned in section 6.2.3.2 can help to gain more insight in these effects. Generally, if these observations are deemed interesting, we would thus suggest conducting further research on them rather than drawing conclusions from this experiment.<sup>61</sup>

## **6.1 Interpretation of findings and limitations**

The findings discussed above can be interpreted in three ways: as a sign of voting not affecting choice induced attitude change, and of attitude importance not moderating such an effect; as a sign that the cognitive dissonance is not resolved via attitude change but via either adding new cognitive elements or changing the attached importance; or, as a sign that the experimental approach failed to find an effect, even though it does exist. All three options are discussed below.

### *6.1.1 No effect of voting on choice induced attitude change*

There is a possibility that voting simply does not affect attitude change, which would explain why no effect was found. It could be that this effect generally does not exist in the general or political domain. Furthermore, since no effect is found for the influence of voting on choice induced attitude change, it is also unlikely to find an effect for the hypothesized moderator of attitude importance. As briefly mentioned in chapter 3, Chen and Risen (2010) severely criticize the experimental approach of the FCP. Taking into account their criticism of a method that many of the papers underlying our hypotheses use, the hypotheses may have been based on faulty research. If there is a wish to ameliorate this potentially faulty foundation, the most important studies can be repeated using one of the four approaches that Chen and Risen offer.

Not being able to refute the null hypotheses does not prove that no effect exists at all: it indicates that the effect is non-significant. This non-significance – if truly due to the non-existence of an effect (or it being small) rather than to flaws in the experimental design - would be the best outcome for society, as it would mean that voting does not increase polarization. Polarization could still be present in society, but voting would not aggravate the situation by providing a positive feedback-loop for such polarization.

### *6.1.2 Pathways for dissonance*

As discussed in the section on cognitive dissonance, dissonance can be reduced in a variety of ways. Either of the (sets of) cognitive elements may be changed, new information can be added, and/or the weight attached to elements may change (often via adding new information). To explain attitude

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<sup>61</sup> Another reason to advice caution in interpreting the effects of high-high and high-low attitude importance on total change is the following. The reference group of low-low attitude importance is quite small, which makes it more sensitive to a (lack of) extreme values. As mentioned in 6.2.4.2, a larger variation in the measured attitude importance would give more legitimacy to the findings. Repeating (an adjusted version of) the experiment with more variation in attitude importance would also create a larger reference group, creating more trust in the effect of high-high and high-low attitude importance on total change.

change after voting, our research focused on the change in cognitive elements. Still, the dissonance reduction could have taken place via one of the two other pathways. Participants may have felt dissonance, but trivialized it by adding the information that the vote was only part of an experiment. Similarly, they may have convinced themselves that the dissonance arousing vote was not truly their own choice. After all, they were placed before two alternatives which were both not ideal to them, so they were forced to choose.

In the future, such directions of dissonance reduction could be further investigated by including these options in the research. In an experiment, one could vary the conditions of participants. For instance, participants could be offered a conscious option for trivialization by writing about their experience and options for attitude change in attitude measurement (as done in Zuwerink and Devine, 1996).

### *6.1.3 Limitations in the experimental set-up*

It is possible that the set-up of our experiment prevented the detection of an effect, even if the mechanism works as described in the literature review. Three causes are discussed here: failing to induce dissonance, failing to measure attitude change correctly, and not having sufficient power in the experiment. Furthermore, a few additional limitations of the current research are discussed, as they should be considered in case of future elaboration upon this experiment.

#### *6.1.3.1 Induction of dissonance*

The hypotheses of this research are based on previous research using cognitive dissonance theory. According to that theory, our experiment should induce negative arousal, which would lead to attitude change. Perhaps however, the circumstances were not sufficient to arouse dissonance. For instance, using political issues rather than political candidates or voting in an experimental setting may not induce dissonance. Or, participants consider a vote in a thesis experiment is less grave than an actual vote. As a cognitive element, it may thus not be deemed sufficiently important to arouse dissonance with the cognitive set of political attitudes.<sup>62</sup>

#### *6.1.3.2 Measuring attitude change*

The current experiment measures attitudes twice. A filler task in the form of an IQ-puzzle was used to distract participants from their previous answers. However, the answers to the attitude measurements barely changed. This may be due to RCR having only a small effect on the attitude change, but it could also be explained by the circumstances of attitude measurement. The IQ-puzzle

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<sup>62</sup> Alternatively, somewhat overlapping with the previous section, it might be that because insufficient importance and permanence is attached to the vote, the participant resolves his/her dissonance by adjusting the attitudes towards the vote. This could be researched by e.g. asking participants to give their opinion about the importance of the vote in hindsight.

may not have been sufficiently distracting for the participants to ‘forget’ their previous answers. Or, the participants may have treated the task as a memory task – contrary to what they were told. In these cases, their second measurements will be strongly influenced by their first.

While deciding upon the setup for the experiment, two methods of attitude measurement were considered. For future research, we recommend trying the option we did not choose, in which attitude is only measured once. For what is currently the RCR-condition, attitude is then measured after voting (using a Choose-Rate design, or CR). For the RRC-condition, attitude is then measured before voting (Rate-Choose, or RC).<sup>63</sup> The downside of this approach is its sensitivity to differences in attitudes between treatments. To counter this effect, the sample needs to be sufficiently large. If more resources are available, it would also be interesting to compare the four methods (RCR, RRC, CR, and RC) and learn whether the method truly makes a difference.

#### *6.1.3.3 Power of the experiment*

This experiment compares two groups:<sup>64</sup> RCR and RRC. In such a setting, the power of the experiment depends on four factors: the group means of the RCR- and RRC-groups, the standard deviation in the sample, the chosen significance level, and the sampling ratio between both groups. Unfortunately, the power of this experiment is quite low; only around 0.2.<sup>65</sup>

The sample size of the experiment, at 252 filled-in responses, is relatively large. The sampling ratio of RCR to RRC, however, is lower than 1 due to the small mistake in the survey flow. This leaves us with relatively little people in the treatment group to compare to the control group, and therefore a lower power of the experiment. Furthermore, there is only a very small difference between the group means,<sup>66</sup> which may be due to the reasons mentioned above. However, if the effect on attitude change is simply small, a far larger sample would be necessary to significantly observe the effect.

Future research could increase the power by searching for an even bigger sample, and by using a set-up in which larger differences may be expected between both groups (as described in the following sections). Furthermore, the division between control group and treatment group should be made more even.

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<sup>63</sup> As also done in the present study, the voting decisions should be checked against influence of the treatment condition.

<sup>64</sup> For the first hypothesis, at least. The second hypothesis compares more groups, but the same conclusion still holds: the power is small.

<sup>65</sup> Depending on which analyses the power is calculated for.

<sup>66</sup> The average attitude change in both groups was quite low, with only a small difference between the means. For the total change in spread, the respective means were  $-.056$  and  $.779$ : a difference of even less than one, and this is including outliers.

## **6.2 Issues to consider for future research**

A few factors that could be improved for future research are: circumventing ceiling effects, increasing the variation in attitude importance, deciding how to treat outliers, finding a more representative sample, and creating a situation that is more similar to actual (Dutch) elections. These are discussed below.

### *6.2.1 Ceiling effects*

One issue with the attitude measurement lies in the potential ceiling and floor effects. If participants already have ‘maximum’ or ‘minimum’ attitudes, they cannot adjust them further upwards or downwards. The conducted ANOVA showed that one or two extreme values did not influence the attitude change in our sample. However, in the case of an experiment where there is more attitude change visible, such ceiling effects may cause a problem. It would thus be useful to prevent this issue in the future. Especially when an approach such as RC and CR (see section above) is chosen, such ceiling effects are important to consider. To prevent them, perhaps the ends of the spectrum could be named more extremely, or another method of measuring could be used.

### *6.2.2 Low variation in attitude importance*

It is unlikely to find an effect of attitude importance on attitude change if the attitude change itself is barely detected. Unfortunately, this is further complicated by low variance in the attitude importance. The ratio between the high-high, high-low, and low-low groups of attitude importance is not equal: the low-low group is far smaller than the other groups. This decreases the power of the experiment. To improve this in future research other topics can be chosen, or attitude importance can be manipulated. If more resources are available, the topics can also be pre-tested for variation in attitude importance in a small pilot study. Otherwise, future research can attempt to manipulate the attitude importance via the material impact, by e.g. changing the timeframe in which a decision would be made.

### *6.2.3 Treatment of outliers*

An issue with measuring attitude change is the treatment of outliers. The outliers in this sample were interpreted as potentially careless filling in of the answers, and as the results were not significant to begin with, they did not influence the significance much. Careless filling in of answers appear a likely explanation for outliers, especially in the case of an online self-report. Yet it could be the case that choice induced attitude change only works (extremely strongly) for a subset of people. In future research, it is useful to explore how the outliers are caused. This may be accomplished by e.g. including questions that test how well participants read the instructions, and excluding participants if they do not appear serious.

#### 6.2.4 *General issues with generalizability*

While generalizability is not an issue with our non-significant findings, a small note on generalizability is relevant before designing future research. The current sample is not fully representative for the Dutch population.<sup>67</sup> The sample is relatively representative in terms of gender, with 47% male versus 49.7% male in the general Dutch population (CBS, 2017b). Then again, as not all respondents are Dutch, extrapolating to the Dutch population is complicated anyway. The largest issue in generalizability, regardless of which population to extrapolate to, lies in the overrepresentation of highly educated individuals. With 91% of the sample being highly educated,<sup>68</sup> and no information on whether high- and low-educated people respond similarly, lower-educated people are not represented well. In future research, with more resources, the researchers could attempt to obtain a more representative sample.

The second concern is whether the experiment is sufficiently comparable to actual elections. As a first step in the research on attitude importance in choice induced attitude change, this experiment provides a simplified version of reality. It should suffice to get an idea of the mechanisms underlying attitude change, but is not sufficient to understand how this mechanism operates in real-life. Just as we expect in real elections elections, the voting options never fully fit the attitudes of the voters. However, the amount of parties and topics presented is severely smaller than in normal Dutch elections. Furthermore, the outcome of the elections in this experiment does not influence the participants' lives, making the situation different from a real-life vote. The drivers of expressing a vote may however be sufficiently comparable, as one vote in a real-life election does not strongly shift the outcome of an election (Hillman, 2010). More importantly, the experimental set-up may cause some form of self-selection bias: participants who severely disagree with both parties may simply opt to quit the experiment. The current study tested whether attrition rates could be predicted by attitudes, and found no significant result. We would however advice to repeat such a test in future research. The experiment also takes place in a setting which is less influenced by framing from the media, or signals such as election outcomes. This entails that whatever effect would be found in the experiment (if the set-up is changed) may not be observed in the same way in a real-life environment. Lastly, as a consequence of being an experiment with relatively little resources, the experiment is focused on the short-term effects. If future research is successful in finding a short-term effect of voting on choice induced attitude change, we recommend elaborating upon the research by changing any of these factors and thereby researching the real-life consequences of voting for change.

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<sup>67</sup> With the largest part of the responses being in Dutch, the Dutch population is the most sensible group to compare our sample to.

<sup>68</sup> The Dutch definition for highly educated is having a hbo-bachelor or higher (hbo-master, wo-bachelor/master or PhD).

## 7. Conclusion

With politics being turbulent and election outcomes becoming more polarized (CBS, 2017a), it is worthwhile to research the effects of such changes in voting behavior on the political attitudes people hold. This research has found no effects for the influence of voting on choice induced attitude change, or signs of a moderating role for attitude importance in this process. This can be explained by the hypothesized effect not existing, the dissonance being reduced in another way, or by limitations of the experimental setting, among a host of other possible factors. Politics, and the potential polarization of political attitudes, are deemed too important to be satisfied with such broadly interpretable findings. We therefore recommend repeating the study in an adjusted version to find a more definitive answer to our research questions. Our most important recommendation is measuring attitude extremity in a different manner; using a design of Rate-Choose and Choose-Rate instead. We also recommend using statements that are pre-tested for variation in attitude importance, facilitating the discovery of an effect for attitude importance. This will help to examine there is an effect of voting on attitude change, so we can truly come to understand the changes people vote for.

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# Appendices

Appendix A: Theories of choice induced attituded change

Appendix B: Criteria for topic selection

Appendix C: Survey flow

Appendix D: Survey questions in Qualtrics

Appendix E: Assumptions of regression

Appendix F: Analysis results for data exploration

Appendix G: Regression analysis for non-winsorized data and data winsorized at the 1%-level

## **Appendix A: Theories of choice induced attituded change**

Cognitive dissonance is not the only theory explaining (choice induced) attitude change. Three other theories are: self-perception theory (Bem, 1967; Bem, 1972), self-signaling theory (Bodner & Prelec, 2003), and confirmation bias (Rabin & Schrag, 1999).<sup>69</sup> Self-perception suggests that people use their own behavior to form the cognitions concerning e.g. their own values. People thus derive their own feelings from their behavior in the same way that they would attempt to derive someone else's feelings and intentions from their behavior (Bem, 1972). In case of a new or repeated behavior, this can lead to new or changed cognitions for that person. For instance, someone may play a sport, and based on that behavior deduce that he likes being active. The theory has its similarities to cognitive dissonance, in that behaviors can form a reason to adjust other cognitions (such as attitudes). It differs from cognitive dissonance there is no necessity for internal processes to induce the attitude change.

Self-signaling theory can be seen as a more conscious version of self-perception theory, arguing that people choose certain behaviors to convince themselves of certain cognitions. For instance, a person may choose to participate in sports because he wants to see himself as someone who likes being active. In a way, this theory offers a premeditated version of self-perception, allowing people to influence their own attitudes via changed behavior.

The last theory, confirmation bias, concerns unbalanced interpretation of (additional) information. Once a person has formed an opinion, he/she may ignore evidence contradicting that opinion, while paying extra attention to the evidence agreeing with that opinion (Rabin & Schrag, 1999). This process is not necessarily deliberate, but has an influence on future attitude(s) (change) nonetheless by filtering the information that is used to form an attitude. For instance, sticking to the sports example, a person convinced he likes being active may simply ignore the contradicting evidence of the times he stayed on the couch, and rather focus on the times he went out to be active.

This thesis focuses on the occurrence of choice induced attitude change, leaving open the discussion on what theory should be used as an explanation for the phenomenon. The scientific community has not reached a consensus on which theory is 'right' in explaining choice induced attitude change. However, the support of choice induced attitude change has been relatively constant in social psychology. Choice induced attitude change has – to some extent – been used in economic and political theory too (as seen in e.g. Mullainathan & Washington, 2009). The choice to explain it by cognitive dissonance in this thesis is a result of cognitive dissonance being used in most of the papers; it is not a judgment on which theory fits best.

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<sup>69</sup> There are even more possible explanations, such as self-affirmation theory and self-consistency theory, both concerning the maintenance of a positive self-image. However, these theories have less research supporting them, or have been disproven (Harmon-Jones and Harmon-Jones, 2007). This thesis therefore does not focus on them.

## Appendix B: Criteria for topic selection

### B.1 Selection process

The four selection criteria are: their relevance for the probable sample of the experiment, the variation in attitudes that people may have regarding the topics, the variation in attitude importance that may be attached to the topics, and lastly, a low correlation of the attitudes and attitude importance of one topic to the other topic. The topics come directly from the Dutch ‘Stemwijzer’, but are compared to the topics in the ‘Jongerenstemwijzer’ – the ‘Stemwijzer’ for young adults – to ensure the statements are relevant for all ages.

The pluses and minuses in the table below represent the expected variation in attitude importance attached to the topics (based on the expected relevance for the three predictors of attitude importance) and attitude extremity. A plus refers to a positive expectation of the variation, a zero to a neutral expectation, and a – to a neutral expectation. These expectations are based on the attitudes as observed in the environment of the researcher, as this likely constitutes a large part of the sample. The pluses and minuses are only filled in for topics that are present in both ‘Stemwijzers’.

### B.2 The ‘Stemwijzer’

In the table below, the thirty statements from the Stemwijzer are found, along with their performance on the criteria described above. The sentence in italics is the English translation of the original Dutch sentence. The sentences are translated relatively close to the original word order and use, but have at times been adjusted to improve the readability.

	In Young Stemwijzer	Self-interest	Social identification	Personal values	Attitude extremity
<i>There should be a binding referendum that allows citizens to stop laws that are accepted by the parlement</i> Er moet een bindend referendum komen, waarmee burgers door het parlement aangenomen wetten kunnen tegenhouden	-				
<i>There should be an obligatory social service for young people. They can serve the army, the police, or in healthcare</i> Er moet een maatschappelijke dienstplicht voor jongeren komen. Zij kunnen dan dienen in het leger, bij de politie of in de zorg.	+	0	+	+	-
<i>To prevent discrimination on the basis of a name, anonymous job applications should be the default for the government and public institutions</i> Om discriminatie op basis van de naam te voorkomen, moet anoniem solliciteren bij de overheid en bij openbare instellingen de regel worden.	+	+	+	0	-
<i>Insulting on grounds of race, religion, or sexual preference should no longer be punishable</i> Belediging van groepen op grond van ras, godsdienst of geaardheid moet niet langer strafbaar zijn	-				
<i>Cultivating and selling marihuana should become legal</i> De teelt en verkoop van wiet moet legaal worden.	+	+	+	+	0
<i>Early release should of prisoners should stop. Prisoners should always finish their full term</i>	-				

De vervroegde vrijlating onder voorwaarden van gevangenen moet stoppen. Zij moeten hun straf helemaal uitzitten.					
<i>The tax over profit of companies should go down</i> De belasting over de winst van ondernemingen (vennootschapsbelasting) moet omlaag.	-				
<i>The highest income-groups should pay more taxes</i> De hoogste inkomensgroepen moeten meer belasting gaan betalen	-				
<i>The period within which you can be employed via a temporary labour contract should become longer than two years</i> De periode waarbinnen je meerdere tijdelijke arbeidscontracten na elkaar kunt afsluiten, moet langer worden dan twee jaar.	+	0	+	0	-
<i>The age from which you can receive the old age provision (AOW) should go back to 65 years</i> De AOW-leeftijd moet weer 65 jaar worden	-				
<i>There should be an obligatory insurance against disease and loss in ability to work for entrepreneurs without personnel</i> Er moet een verplichte verzekering tegen arbeidsongeschiktheid en ziekte komen voor alle zelfstandigen zonder personeel (zzp'ers).	-				
<i>The lending system for students should be discarded. The standard grant should come back</i> Het leenstelsel voor studenten moet worden afgeschaft. De basisbeurs moet weer terugkomen.	+	+	+	0	-
<i>More money should go to the arts and culture</i> Er moet meer geld naar kunst en cultuur.	-				
<i>The Netherlands should close their borders for Islamic immigrants</i> Nederland moet de grenzen sluiten voor islamitische immigranten.	-				
<i>Children of asylum seekers who grew up in the Netherlands should be able to stay here</i> In Nederland opgegroeide kinderen van asielzoekers moeten hier kunnen blijven (kinderpardon).	-				
<i>The government should forbid municipalities to provide shelter to illegal immigrants</i> De regering moet gemeenten verbieden illegale vreemdelingen onderdak te geven	-				
<i>The rule for deduction of mortgage-interest should not be changed any further</i> De regeling voor de aftrek van de hypotheekrente moet niet verder worden aangetast.	-				
<i>Housing corporations should build more and cheaper rental housing. Therefore, the tax they pay over rental housing should decrease</i> Woningcorporaties moeten meer goedkope huurwoningen bouwen. Daarom moet de belasting die zij betalen over huurwoningen (verhuurdersheffing) worden afgeschaft	-				
<i>The airport of Schiphol should be able to expand</i> Luchthaven Schiphol moet kunnen uitbreiden.	-				
<i>The government should not tax the possession, but the use (in kilometres driven) of a car</i> De regering moet niet het bezit van de auto, maar het aantal gereden kilometers belasten.	-				
<i>More money should go to the construction of new roads</i> Er moet meer geld naar de aanleg van nieuwe wegen.	-				
<i>All coal plants are allowed to remain open for the time being</i>	-				

Alle kolencentrales mogen voorlopig open blijven					
<i>The tax on meat should be increased to a VAT of 21%</i> Voor vlees moet het hoge btw-tarief van 21 procent gaan gelden.	+	+	+	+	+
<i>Elderly who feel their lives are fulfilled should be able to get professional help to end their lives</i> Ouderen die vinden dat hun leven voltooid is moeten hulp kunnen krijgen om een einde aan hun leven te maken	+	0	+	+	+
<i>The deductible in healthcare should be abolished, even if that means insurance premiums increase</i> Het eigen risico in de zorg moet worden afgeschaft, ook als dat betekent dat de premies omhoog gaan.	+	+	+	+	-
<i>There should be a national fund for healthcare, such that the system of private insurers can be discontinued</i> Er moet een landelijk zorgfonds komen, zodat het stelsel van particuliere zorgverzekeraars kan verdwijnen.	-				
<i>In the coming years, the spending on defence should be increased to 2 percent of the national income (the NATO-norm)</i> De uitgaven voor defensie moeten de komende jaren fors omhoog naar 2 procent van het nationale inkomen (de NAVO-norm).	-				
<i>There should be a European army</i> Er moet een Europees leger komen	-				
<i>The Netherlands should spend more money on the development of poor countries</i> Nederland moet meer geld uitgeven voor de ontwikkeling van arme landen.	-				
<i>The Netherlands should get out of the EU</i> Nederland moet uit de Europese Unie (EU) stappen.	-				

### B.3 The 'Jongerenkieswijzer'

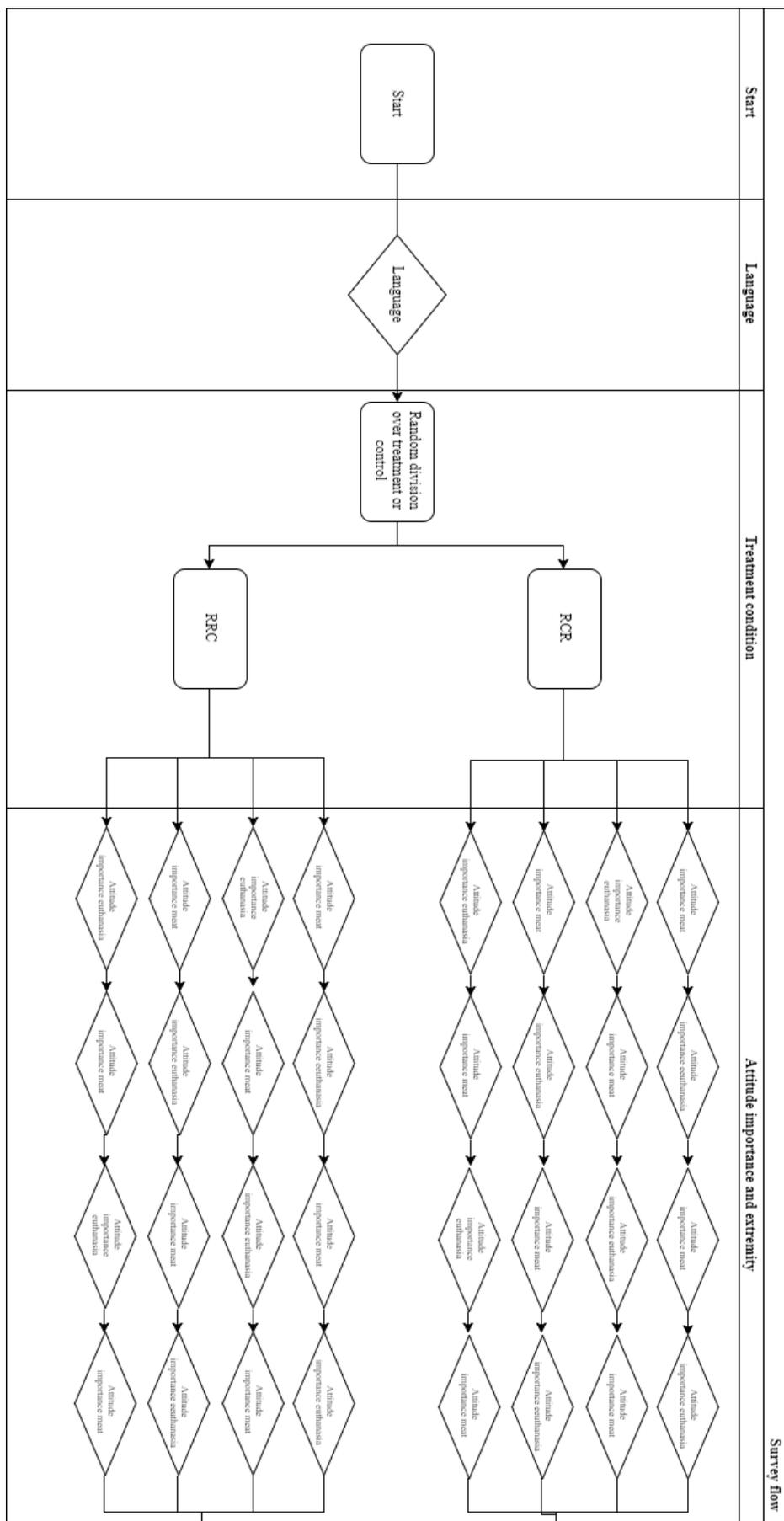
In the table below, the twenty statements from the Jongerenkieswijzer are found along with their performance on the criteria described above. The sentence in italics is the English translation of the original Dutch sentence. The sentences are translated relatively close to the original word order and use, but have at times been adjusted to improve the readability.

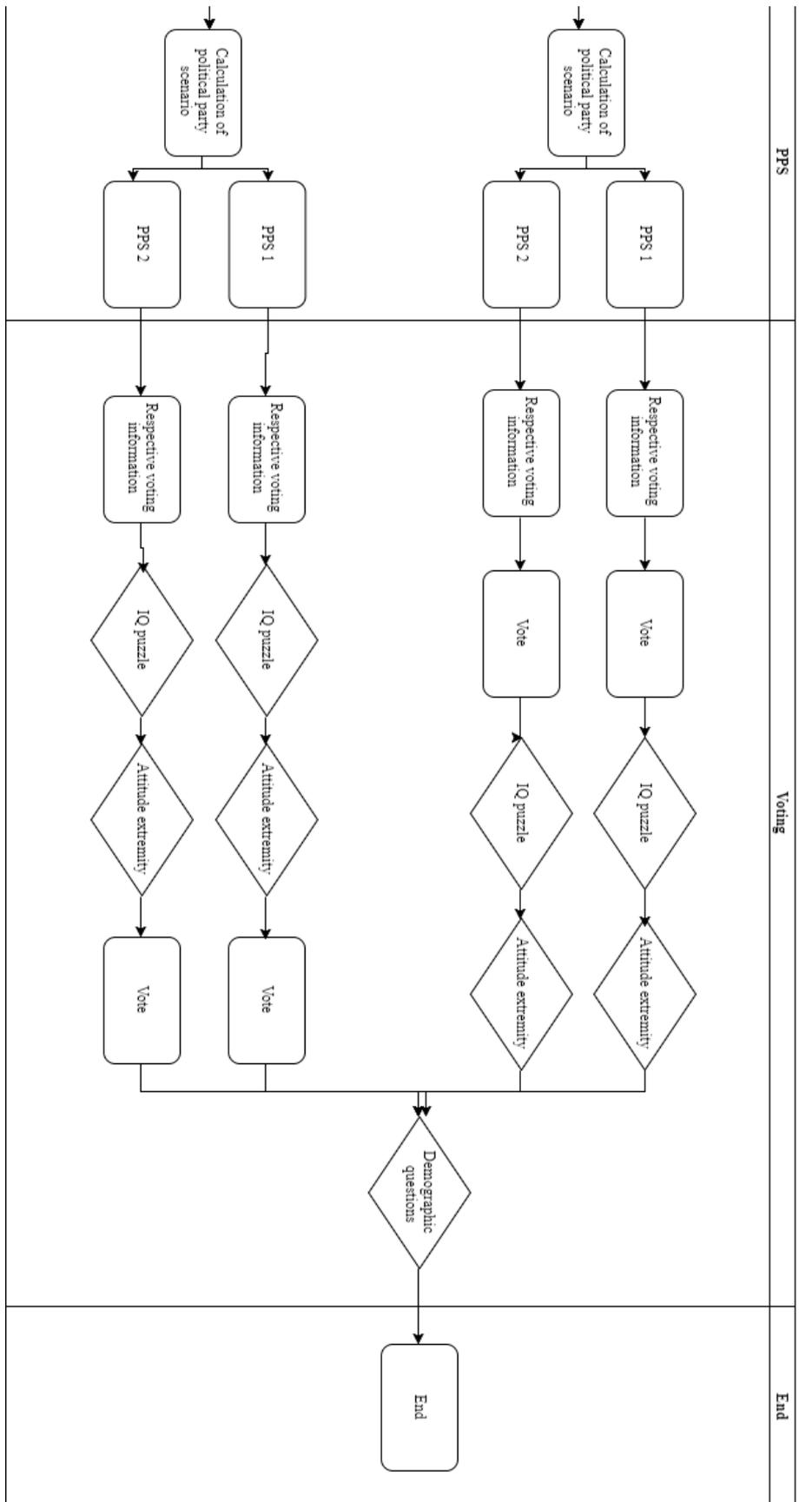
	In regular Stemwijzer	Self-interest	Social identification	Personal values	Attitude extremity
<i>The study grant for students in higher education should be re-installed</i> De basisbeurs voor studenten in het hoger onderwijs moet weer terug	+	+	+	0	-
<i>Tuition fees for a second degree should be equal to the statutory fee for a first degree</i> Het collegegeld voor een tweede studie moet gelijk zijn aan het wettelijk collegegeld van de eerste studie	-				
<i>Instead of the school's advice from primary school, the final CITO-score should be leading in determining the level of high school for students</i> In plaats van het schooladvies van de basisschool moet de Cito-eindtoets leidend zijn voor het vervolgonderwijs van de leerlingen	-				
<i>The 'product' for student travel should stay available in the current form</i> Het studentenreisproduct moet beschikbaar blijven in huidige vorm.	-				

<i>The colonial past and the history of migration should be an obligatory part of the curriculum of schools</i> Het koloniaal verleden en de migratiegeschiedenis moet een verplicht onderdeel worden van het curriculum (oftewel leerplan) van scholen.	-				
<i>Religious educational institutions should no longer receive money from the government</i> Confessioneel bijzonder onderwijs moet geen geld meer krijgen van de overheid.	-				
<i>Young people should be obliged to provide social service</i> Er moet een maatschappelijke dienstplicht worden ingevoerd (voor jongeren).	+	0	+	+	-
<i>Fathers should receive more paid leave to spend with their newborn child</i> Vaders moeten meer verlofdagen krijgen om door te brengen met hun pasgeboren kind	-				
<i>The period during which you can receive subsequent temporary contracts should be increased from two to five years</i> De periode dat je achter elkaar tijdelijke contracten mag krijgen, moet verlengd worden van 2 jaar naar 5 jaar.	+	0	+	0	-
<i>Employers should be required to pay graduated students for the work experience programs and internships they do</i> Werkgevers moeten worden verplicht om alleen betaalde werkervaringsplekken en stages aan te bieden aan afgestudeerde jongeren	-				
<i>Companies and governmental institutions that do not treat employees equally should be fined</i> Bedrijven en overheidsinstanties waar werknemers niet gelijk behandeld worden moeten een boete krijgen	-				
<i>Anonymous job applications should be implemented widely</i> Anoniem solliciteren moet breed ingevoerd worden.	+	+	+	0	-
<i>Because elderly use more health care than young people, they should pay higher insurance premiums</i> Omdat ouderen meer gebruik maken van zorg dan jongeren, moeten ze ook meer zorgpremie betalen.	-				
<i>The deductible of 385 euros in health care should be abolished</i> Het eigen risico van 385 euro in de zorg moet verdwijnen.	+	+	+	+	-
<i>Elderly, from an age of 75, should be able to determine whether they want to end their lives prematurely</i> Ouderen vanaf 75 jaar moeten zelf kunnen bepalen of zij hun leven vroegtijdig willen beëindigen.	+	0	+	+	+
<i>The sale of soft drugs should be legalised</i> De verkoop van softdrugs moet gelegaliseerd worden.	+	+	+	+	0
<i>There should be a prohibition on investing in fossil fuel</i> Er moet een verbod komen op investeringen in fossiele brandstoffen.	-				
<i>There should be a surcharge on meat</i> Er moet accijnsbelasting op vlees komen	+	+	+	+	+
<i>There should be more attention for sustainability as a theme in the Dutch educational system</i> Er moet meer aandacht worden besteed aan duurzaamheid als thema in het Nederlandse onderwijs.	-				

<i>Clothing brands pay less taxes if they can prove that their products have been produced sustainably</i> Kledingmerken die kunnen aantonen dat hun producten duurzaam zijn geproduceerd hoeven minder belasting te betalen.	-	
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**Appendix C: Survey flow**





**Appendix D: Survey questions in Qualtrics**

Below follows one of the possible surveys participants could fill in, in English. This particular case is in the RRC-condition, with a meat tax as the first topic, and the attitude importance being asked before the attitude extremity.

Please indicate your preferred language below:

 English Dutch[>>](#)



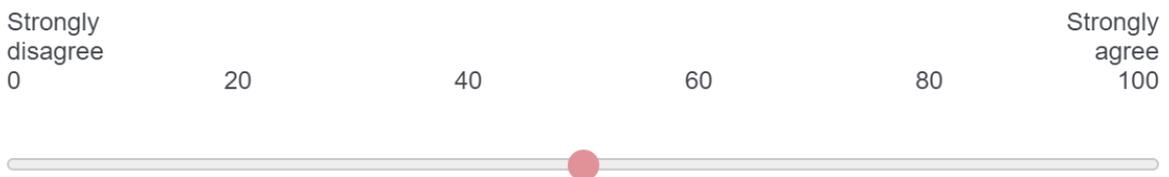
Please indicate your opinion below:

	Disagree extremely	Disagree strongly	Disagree moderately	Disagree slightly	Neither agree nor disagree	Agree slightly	Agree moderately	Agree strongly	Agree extremely
My attitude toward euthanasia is very important to me personally	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>				
I do not care personally about this issue	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>				
I do not have very intense feelings about this issue	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>				
I am personally very concerned about this issue	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>				



Give your opinion about the following statement:

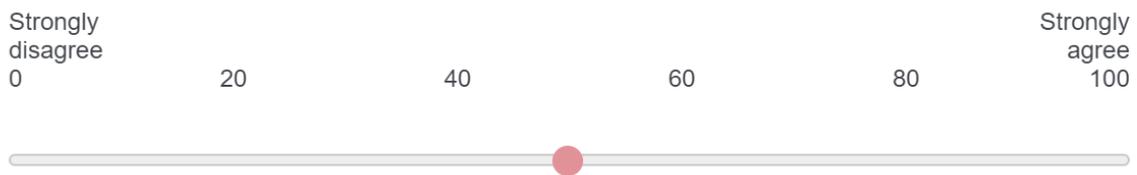
**The tax on meat should be increased to a 21% VAT** (VAT = Value Added Tax, or 'BTW' in Dutch)



---

Give your opinion about the following statement:

**Elderly who feel their life is fulfilled should be able to get professional help to end their lives**



>>

Imagine that elections are coming up, and you are offered a choice between two different parties.

Their party programs contain the following points:

---

### Party A

- The tax on meat should not be increased to a 21% VAT
- Elderly should be able to perform euthanasia

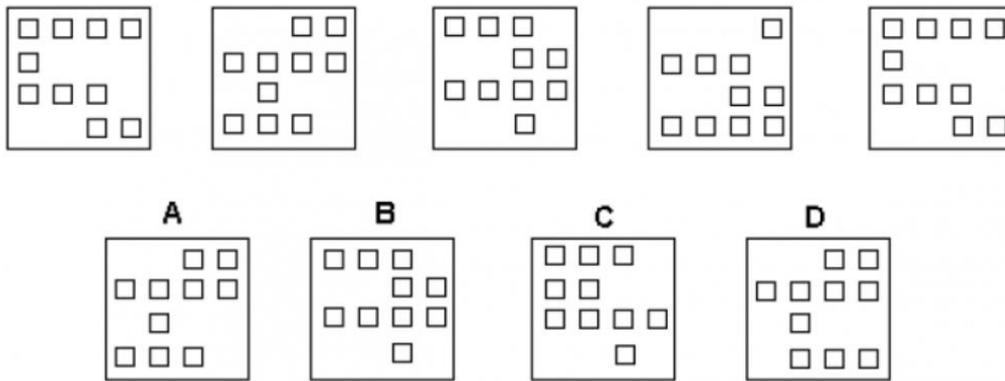
### Party B

- The tax on meat should be increased to a 21% VAT
- Elderly should not be able to perform euthanasia

---

Please continue by clicking >>

>>



Which of the four options continues the logic of the first five squares?

Option A      Option B      Option C      Option D



Please answer the following questions about the two topics.

Notice that these questions are the same questions you answered as before. This is not a memory test. There are no right or wrong answers to the questions. State your honest opinion as it is right now.

Give your opinion about the following statement:

**The tax on meat should be increased to a 21% VAT** (VAT = Value Added Tax, or 'BTW' in Dutch)

Strongly disagree      0      20      40      60      80      Strongly agree      100



Give your opinion about the following statement:

**Elderly who feel their life is fulfilled should be able to get professional help to end their lives**

Strongly disagree 0      20      40      60      80      Strongly agree 100



>>

Now imagine you are at the ballot box, casting your vote on one of these parties. Please vote on the party of your choice.

### Party A

- The tax on meat should not be increased to a 21% VAT
- Elderly should be able to perform euthanasia

### Party B

- The tax on meat should be increased to a 21% VAT
- Elderly should not be able to perform euthanasia

Which party do you vote for?

Party A

Party B

>>

We would like to ask you a few demographic questions, starting with your age. How old are you?

Age in years

What is your gender?

Male

Female

What is your educational background? (Select the highest level you finished, or what you are currently enrolled in)

High school

MBO/ Vocational education

HBO-bachelor/ University of applied sciences

WO-bachelor/ University

Master's degree

PhD

Other

What is your mother tongue?

Dutch

English

Other

Are you vegetarian or vegan?

Vegetarian

Vegan

Neither

Are any of the people close to you (e.g. friends or family) vegetarian or vegan?

Yes

No

Have you or a family member/loved one considered euthanasia? (We understand that this is a sensitive topic, so feel free to skip this question if you prefer not to answer)

Yes

No

In case you would like a chance to win 10 euros, please leave your e-mail address here:

---

Thank you for filling in the survey! If you have any questions or remarks, please feel free to contact [v.a.vanwingerden@gmail.com](mailto:v.a.vanwingerden@gmail.com)



## Appendix E: Assumptions of regression

Six assumptions need to be satisfied to use the OLS regression necessary for the analysis. The four assumptions required for OLS to produce the best linear unbiased estimator are that: the relations of the parameters are linear, there is random sampling, there is no perfect collinearity, and that the zero conditional mean is satisfied. Furthermore, there needs to be homoscedasticity in order for OLS to give the best and right inference, and the errors need to follow a normal distribution for the t- and F-statistics to follow their distributions. All these assumptions are tested. For the sake of brevity, only the method and the outcome is reported here; the do-file and data for STATA may be requested from the author.

The first assumption is checked by plotting the included dependent variables against the independent variables and fitting a straight line through the plot. While at times one may wonder whether there is a relation at all, the relations seen in the plots are indeed linear.<sup>70</sup> Assumption two is satisfied by the random sampling used in the experiment. The only check necessary for this is to see whether the voting decisions from the RCR and RRC sample can be compared: after all, stating the opinion twice before voting in the RRC-condition may push participants to vote differently. A logistic analysis was run using the same model as reported for the vote prediction, but now including RCR. With p-values of .958 and .875, the RCR-condition is not a significant predictor for the vote for either euthanasia and/or a meat tax ( $\beta = -0.178$ , S.E. = 0.34 and  $\beta = 0.059$ , S.E. = 0.330 respectively). It thus appears that for the purposes of this analysis, we may treat the voting of the RCR- and RRC-groups the same.

The assumption of no perfect collinearity is tested on the most elaborate models<sup>71</sup> used in the regression, by testing the variance inflation factor with a VIF test. When including interactions such as in the models for hypothesis 2, the VIF becomes high for RCR and its interactions with the dummies for high and high or high and low attitude importance. However, there is only partial collinearity between these terms, and they are necessary for the analysis. Other interactions, such as that of RCR with a vote for a meat tax are excluded from the analysis whenever not significant, keeping the VIF down where possible. The zero conditional mean is controlled by regressing the residuals of the regressions of the most elaborate models on the predictors: none of them is significant. The case for homoscedasticity is more complicated: while some models have homoscedastic variances, others do not. Using the Breusch-Pagan test, all models in the analysis are tested, and robust standard errors are included wherever the test results are significant.

The assumption of normality of the errors was investigated with plots of the residuals as well as the Shapiro-Wilk test, and was clearly violated by all models. Data transformations, such as using

---

<sup>70</sup> Due to the multitude of variables included, not all scatterplots are included. The code can be found in the do-file that can be requested from the author.

<sup>71</sup> Meaning: including the highest number of variables. As described in the hypotheses testing, controlling variables are added in a stepwise manner per model.

the natural log of the measures, did not improve normality. Winsorizing the data, as previously described, does not influence this deviation from normality either. Using a relatively large sample, the non-normality of the errors need not necessarily form a problem for the t- and F-distributions, and therefore not for the outcomes. The limitations section will discuss how such issues may be prevented in the future.

## Appendix F: Analysis results for data exploration

### F.1 Regressions results for attrition rates

A logistic regression is used to regress a dummy variable for finishing the experiment on the dummy variable for RCR, the dummy variable for political party scenario, and the attitude importance and extremity for both euthanasia and the meat tax. The regression is conducted using the observations of which the attitudes were filled in.

**Table F.1: Predicting attrition rates**

	b/se
RCR	1.36 (0.80)
Political party scenario	-0.329 (0.60)
First indicated attitude on euthanasia	0.009 (0.01)
First indicated attitude on meat tax	-0.004 (0.01)
Attitude importance euthanasia	-0.11 (0.16)
Attitude importance meat tax	0.219 (0.14)
Euthanasia as first topic	-0.399 (0.50)
constant	2.141 (1.60)
N	272
LR chi2	8.78
Prob > chi2	0.269
Pseudo R2	0.06

\* p<0.05    \*\* p<0.01    \*\*\* p<0.001

### F.2 Distribution of extreme values

Value \ Measure	First attitude on meat tax	First attitude on euthanasia	Value of Meatbefore \ Elderlybefore	0	100
0	26	8	0	4	9
100	34	51	100	0	14
<b>Total n</b>	252	252	<b>Total n</b>	252	252

Table F.2: number of observations with extreme values (0 or 100) for both first indicated attitudes  
 Table F.3: number of extreme values (0 or 100) for the first indicated attitude for the meat tax (MeatBefore) and euthanasia (ElderlyBefore)

### F.3 Results one-way ANOVA for extreme values

**Table F.4: Effects of extreme values**

Attitude change on:	Euthanasia b/se	Meat tax b/se
One extreme value	-1.492* (0.73)	-0.651 (0.99)
Two extreme values	-0.763 (1.04)	0.13 (1.40)
Constant	0.800* -0.39	-0.056 -0.53
F	2.13	0.25
dfres	249	249
prob > F	0.121	0.783
R-sqr	0.017	0.002
R-adj	0.009	-0.006
* p<0.05	** p<0.01	*** p<0.001

### F.4 Regression analysis for attitude importance

**Table F.5: Predicting attitude importance**

Attitude importance for:	Euthanasia b/se	Meat tax b/se
Consideration of euthanasia	0.909*** (0.19)	
Being vegetarian		1.231*** (0.34)
Being vegan		1.345 (0.71)
Having vegetarian/vegan friends or family		0.493* (0.24)
Constant	6.017*** (0.12)	4.953*** (0.20)
F	22.89	8.76
dfres	250	248
Prob > F	0.000	0.000
R-sqr	0.084	0.096
R-adj	0.08	0.085
* p<0.05	** p<0.01	*** p<0.001

## F.5 Regression analysis for voting decisions

Table F.6: Predicting voting decisions

Dissonant vote:	Favoring euthanasia	Against euthanasia	Favoring meat tax	Against meat tax
	b/se	b/se	b/se	b/se
Original attitude on euthanasia	-0.249 (0.13)	0.078*** (0.02)	0.044 (0.02)	-0.058** (0.02)
Original attitude on meat tax	0.232 (0.13)	-0.068*** (0.02)	0.029* (0.01)	0.048*** (0.01)
Attitude importance euthanasia	-1.567 (1.15)	-0.276 (0.15)	0.789*** (0.23)	0.393** (0.15)
Attitude importance meat tax	0.637 (0.74)	0.109 (0.16)	-0.846*** (0.24)	-0.222 (0.16)
Constant	5.284 (6.37)	-0.634 (1.59)	-1.809 (1.82)	0.466 (1.47)
N	30	222	112	140
LR chi2	28.26	93.91	45.31	48.8
Prob > chi2	0.000	0.000	0.000	0.000
Pseudo R2	0.812	0.419	0.408	0.261
	* p<0.05	** p<0.01	*** p<0.001	

**Appendix G: Regression analysis for non-winsorized data and data winsorized at the 1%-level**

Table G.1: the effects of RCR on attitude change

	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6				
	Euthanasia	Total	Euthanasia	Total	Euthanasia	Total	Euthanasia	Total	Euthanasia	Total	Euthanasia	Total			
	b/se	b/se	b/se	b/se	b/se	b/se	b/se	b/se	b/se	b/se	b/se	b/se			
Attitude change regarding:															
RCR	-1.033 (0.84)	-0.197 (1.17)	-1.114 (0.84)	-0.133 (0.91)	-1.565 (3.39)	-11.588 (8.42)	-0.836 (0.90)	0.812 (0.87)	-1.647 (1.26)	-0.763 (0.95)	0.741 (0.89)	-1.504 (1.34)	-0.623 (0.93)	0.924 (0.92)	-1.547 (1.35)
Dissonant vote against euthanasia			3.547 (2.23)	-1.696 (2.07)	-2.423 (1.94)	2.912 (2.70)	3.477 (2.29)	-1.701 (2.00)	5.177 (3.01)	3.104 (2.33)	-2.139 (2.07)	5.243 (3.08)	3.119 (2.42)	-1.934 (2.10)	5.053 (3.17)
Dissonant vote for meat tax			3.259 (2.24)	-0.736 (2.06)	-0.488 (1.81)	0.719 (2.66)	3.444 (2.13)	-0.727 (2.20)	4.171 (3.04)	3.198 (2.13)	-1.122 (2.16)	4.32 (2.98)	3.366 (2.08)	-1.003 (2.07)	4.368 (2.87)
Dissonant vote against meat tax			3.242 (2.22)	-2.889 (2.02)	-3.666* (1.83)	3.92 (2.66)	3.391 (2.19)	-2.881 (2.00)	6.272* (2.93)	3.196 (2.16)	-3.115 (2.02)	6.311* (2.91)	3.175 (2.13)	-2.668 (1.96)	5.843* (2.83)
Dissonant vote against euthanasia * RCR					13.123 (8.20)	2.785 (3.93)	10.338 (8.76)								
Dissonant vote for meat tax * RCR					13.088 (8.19)	-0.632 (3.73)	13.721 (8.69)								
Dissonant vote against meat tax * RCR					12.906 (8.19)	2.986 (3.74)	9.92 (8.51)								
Attitude importance euthanasia							-0.247 (0.24)	-0.031 (0.29)	-0.216 (0.41)	-0.263 (0.24)	0.08 (0.29)	-0.343 (0.40)	-0.279 (0.26)	0.217 (0.31)	-0.495 (0.43)
Attitude importance meat tax							-0.032 (0.18)	0.002 (0.25)	-0.034 (0.31)	-0.07 (0.18)	-0.03 (0.25)	-0.04 (0.31)	-0.069 (0.18)	-0.045 (0.24)	-0.024 (0.30)
Euthanasia as first topic							-0.691 (0.66)	-1.937* (0.80)	1.246 (1.02)	-0.79 (0.74)	-1.860* (0.86)	1.07 (1.14)	-0.65 (0.68)	-1.966* (0.90)	1.316 (1.13)
Vegetarian										1.372 (1.07)	2.424** (0.92)	-1.052 (1.43)	1.174 (1.07)	2.672** (0.94)	-1.498 (1.43)
Other values (vegan, vegetariansur, euthanasiacons)										x	x	x	x	x	x
Demographic variables (Age, gender, education)															
constant	0.624* (0.31)	-0.155 (0.50)	-2.383 (2.00)	1.439 (1.98)	-3.823 (2.73)	-1.412 (2.47)	-0.445 (2.60)	2.363 (2.53)	-2.808 (3.58)	0.36 (2.84)	3.293 (2.67)	-2.933 (3.79)	-0.147 (2.59)	4.255 (3.85)	-4.402 (4.69)
F	1.53	0.04	0.51	0.67	1.67	1.36	0.96	1.78	1.29	1	2.14	1.42	0.92	1.56	1.29
dires	250	250	247	247	247	244	244	244	244	240	240	240	232	232	232
prob > F	0.218	0.834	0.478	0.612	0.158	0.223	0.46	0.092	0.254	0.446	0.018	0.165	0.564	0.067	0.189
R-sqr	0.009	0	0.002	0.044	0.024	0.043	0.053	0.041	0.049	0.068	0.064	0.06	0.094	0.091	0.097
R-adj	0.005	-0.004	-0.002	0.029	0.008	0.027	0.026	0.013	0.022	0.025	0.021	0.017	0.02	0.016	0.023

\* p<0.05 \*\* p<0.01 \*\*\* p<0.001

Table G.2: the effects of RCR on attitude change for the sample data winsorized at the 1th percentile

	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6							
	Euthanasia b/se	Meat tax b/se	Total b/se	Euthanasia b/se	Meat tax b/se	Total b/se	Euthanasia b/se	Meat tax b/se	Total b/se	Euthanasia b/se	Meat tax b/se	Total b/se						
Attitude change regarding:																		
RCR	-0.831 (0.73)	-0.066 (0.81)	-0.65 (1.11)	-0.897 (0.73)	-0.012 (0.81)	-0.782 (1.18)	-10.753 (6.64)	-1.153 (2.91)	-9.588 (7.20)	-0.595 (0.80)	0.909 (0.82)	-1.474 (1.21)	-0.511 (0.85)	0.811 (0.90)	-1.317 (1.28)	-0.418 (0.87)	1.004 (0.92)	-1.412 (1.31)
Dissonant vote against euthanasia																		
	2.986 (1.84)	-1.386 (1.89)	4.775 (2.76)	2.986 (1.84)	-1.386 (1.89)	4.775 (2.76)	0.489 (0.56)	-2.011 (1.67)	2.912 (2.70)	2.921 (1.89)	-1.347 (1.81)	4.681 (2.77)	2.599 (1.93)	-1.769 (1.49)	4.747 (2.86)	2.605 (2.01)	-1.575 (1.52)	4.553 (2.93)
Dissonant vote for meat tax																		
	2.703 (1.86)	-0.535 (1.82)	3.586 (2.72)	2.703 (1.86)	-0.535 (1.82)	3.586 (2.72)	0.232 (0.73)	-0.338 (1.56)	0.796 (2.65)	2.887 (1.80)	-0.698 (1.98)	3.899 (2.84)	2.675 (1.82)	-1.052 (1.46)	4.049 (2.80)	2.896 (1.82)	-0.911 (1.49)	4.134 (2.72)
Dissonant vote against meat tax																		
	2.613 (1.82)	-2.369 (1.78)	5.513* (2.66)	2.613 (1.82)	-2.369 (1.78)	5.513* (2.66)	0.155 (0.47)	-2.959 (1.57)	3.707 (2.62)	2.752 (1.80)	-2.457 (1.80)	5.717* (2.71)	2.6 (1.78)	-2.725 (1.41)	5.779* (2.69)	2.646 (1.83)	-2.268 (1.46)	5.371* (2.66)
Dissonant vote against euthanasia * RCR																		
	10.723 (6.71)	2.373 (3.37)	8.338 (7.60)	10.723 (6.71)	2.373 (3.37)	8.338 (7.60)												
Dissonant vote for meat tax * RCR																		
	10.688 (6.70)	-0.502 (3.21)	11.644 (7.51)	10.688 (6.70)	-0.502 (3.21)	11.644 (7.51)												
Dissonant vote against meat tax * RCR																		
	10.605 (6.69)	2.279 (3.21)	8.133 (7.30)	10.605 (6.69)	2.279 (3.21)	8.133 (7.30)												
Attitude importance euthanasia																		
	-0.22 (0.23)	0.073 (0.23)	-0.262 (0.38)	-0.22 (0.23)	0.073 (0.23)	-0.262 (0.38)												
Attitude importance meat tax																		
	-0.017 (0.16)	-0.086 (0.22)	0.016 (0.29)	-0.017 (0.16)	-0.086 (0.22)	0.016 (0.29)												
Euthanasia as first topic																		
	-0.728 (0.64)	-1.828* (0.73)	1.265 (0.99)	-0.728 (0.64)	-1.828* (0.73)	1.265 (0.99)												
Vegetarian																		
Other values (vegan, vegetariansur, euthanasiacons)																		
Demographic variables (Age, gender, education)																		
constant																		
F	0.591 (0.30)	-0.188 (0.43)	0.735 (0.59)	-1.887 (1.63)	1.094 (1.77)	-3.413 (2.53)	0.353 (0.22)	1.353 (1.39)	-1.412 (2.47)	-0.191 (2.45)	1.594 (2.22)	-2.447 (3.49)	0.546 (2.76)	2.331 (2.36)	-2.57 (3.74)	0.064 (2.44)	2.84 (4.18)	-3.685 (4.48)
dfres	1.3	0.01	0.34	0.7	1.76	1.61	0.53	1.23	1.36	1.04	1.96	1.28	1.06	1.6	1.41	0.94	1.35	1.3
prob > F	0.255	0.935	0.558	0.247	0.247	0.172	0.444	0.244	0.244	0.4	0.061	0.261	0.391	0.098	0.168	0.53	0.152	0.185
R-sqr	0.007	0	0.001	0.036	0.023	0.039	0.114	0.034	0.068	0.045	0.044	0.047	0.06	0.068	0.057	0.088	0.1	0.095
R-adj	0.003	-0.004	-0.003	0.021	0.007	0.023	0.088	0.006	0.041	0.018	0.017	0.02	0.016	0.026	0.014	0.014	0.026	0.021

\* p<0.05 \*\* p<0.01 \*\*\* p<0.001

Table G.3: the interaction effect of attitude importance and RCR on attitude change

	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6					
	Euthanasia	Total	Euthanasia	Total	Euthanasia	Total	Euthanasia	Total	Euthanasia	Total	Euthanasia	Total				
	b/se	b/se	b/se	b/se	b/se	b/se	b/se	b/se	b/se	b/se	b/se	b/se				
Attitude change regarding:																
RCR	-2.333 (2.79)	-0.262 (4.09)	-1.947 (3.05)	-0.33 (4.12)	-13.356 (8.66)	-0.859 (4.47)	-12.497 (8.85)	-1.594 (3.11)	0.625 (3.28)	-2.219 (4.20)	-1.232 (3.06)	1.521 (3.29)	-2.753 (4.44)	-0.976 (3.38)	1.486 (3.34)	-2.462 (4.91)
High-high attitude importance	-2.209 (1.43)	1.514 (2.43)	-2.025 (1.45)	1.926 (1.79)	-2.221 (1.46)	2.088 (1.95)	-4.309* (1.86)	-2.091 (1.43)	1.747 (1.94)	-3.838* (1.81)	-2.104 (1.42)	2.468 (1.95)	-4.572* (1.93)	-2.11 (1.37)	2.748 (1.97)	-4.859* (1.93)
High-low attitude importance	-1.875 (1.48)	0.526 (2.41)	-1.868 (1.48)	0.594 (1.91)	-1.868 (1.50)	0.592 (1.92)	-2.46 (1.96)	-1.979 (1.49)	0.295 (1.91)	-2.274 (1.95)	-1.955 (1.47)	0.565 (1.91)	-2.52 (2.01)	-2.037 (1.41)	0.873 (1.95)	-2.91 (1.93)
High-high attitude importance * RCR	1.3 (3.13)	0.335 (4.46)	0.695 (3.43)	0.479 (4.52)	-0.22 (4.42)	-0.456 (5.06)	0.236 (5.06)	0.622 (3.45)	0.282 (3.55)	0.34 (4.56)	0.109 (3.50)	-1.196 (3.58)	1.305 (4.84)	-0.046 (3.74)	-0.623 (3.66)	0.576 (5.27)
High-low attitude importance * RCR	1.502 (2.99)	-0.163 (4.43)	1.078 (3.23)	-0.015 (4.55)	-0.098 (4.21)	-0.396 (5.01)	0.298 (5.01)	1.124 (3.24)	0.11 (3.52)	1.014 (4.56)	1.01 (3.15)	-0.613 (3.51)	1.623 (4.73)	0.883 (3.52)	-0.617 (3.57)	1.499 (5.22)
Dissonant vote against euthanasia																
			3.515 (2.29)	-1.56 (3.00)	0.334 (0.60)	-2.106 (1.96)	2.44 (2.65)	3.526 (2.29)	-1.532 (1.69)	5.058 (2.99)	3.109 (2.36)	-1.869 (1.74)	4.977 (3.06)	3.115 (2.43)	-1.638 (1.78)	4.753 (3.10)
Dissonant vote for meat tax																
			3.179 (2.26)	-0.406 (2.93)	0.07 (0.74)	-0.048 (1.84)	0.118 (2.60)	3.176 (2.26)	-0.417 (1.99)	3.592 (2.92)	2.961 (2.25)	-0.524 (1.59)	3.485 (2.84)	3.13 (2.18)	-0.222 (1.63)	3.352 (2.74)
Dissonant vote against meat tax																
			3.287 (2.26)	-2.926 (1.60)	0.261 (0.55)	-3.626* (1.83)	3.887 (2.59)	3.288 (2.26)	-2.924 (1.59)	6.212* (2.90)	3.104 (2.24)	-2.984 (1.60)	6.088* (2.84)	3.058 (2.20)	-2.425 (1.67)	5.483* (2.76)
Dissonant vote against euthanasia * RCR																
			13.719 (8.10)	2.285 (3.98)	11.434 (8.58)											
Dissonant vote for meat tax * RCR																
			13.369 (8.01)	-0.973 (3.76)	14.342 (8.39)											
Dissonant vote against meat tax * RCR																
			13.192 (8.11)	2.75 (3.76)	10.442 (8.34)											
Euthanasia as first topic																
					-0.701 (0.68)	-1.894* (0.94)	1.193 (1.05)	-0.811 (0.76)	-1.861 (0.95)	1.05 (1.16)	-0.658 (0.70)	-1.983* (0.96)	1.325 (1.15)			
Other values (vegetarian, vegan, vegetariansur, euthanasiacons)																
Demographic variables (Age, gender, education)																
constant																
	2.5 (1.38)	-1.071 (1.02)	3.571 (2.24)	0.175 (2.27)	-0.747 (3.07)	2.319 (1.39)	0.328 (2.39)	1.991 (2.79)	-1.341 (2.30)	1.118 (2.30)	0.309 (2.52)	2.152 (2.38)	-1.842 (3.11)	-0.422 (2.27)	2.692 (4.37)	-3.114 (3.76)
F	0.74	0.77	0.88	1.18	1.43	0.57	1.15	1.28	1.38	1.1	1.6	1.34	0.94	1.29		
dfres	246	246	246	243	243	240	240	240	242	242	238	238	238	230	230	230
prob > F	0.595	0.573	0.497	0.31	0.184	0.855	0.324	0.234	0.142	0.197	0.359	0.085	0.193	0.534	0.153	0.184
R-sqr	0.019	0.009	0.018	0.054	0.037	0.155	0.05	0.1	0.058	0.066	0.074	0.08	0.079	0.101	0.109	0.118
R-adj	-0.001	-0.011	-0.002	0.023	0.006	0.116	0.007	0.058	0.023	0.018	0.023	0.03	0.029	0.019	0.027	0.037

\* p<0.05 \*\* p<0.01 \*\*\* p<0.001

Table G.4: the interaction effect of attitude importance and RCR on attitude change for the sample data winsorized at the 1th percentile

Attitude change regarding:	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6							
	Euthanasia b/se	Meat tax b/se	Total b/se															
RCR	-2.333 (2.23)	-0.262 (2.82)	-2.071 (3.86)	-1.995 (2.99)	-0.322 (2.80)	-1.649 (4.06)	-11.34 (7.38)	-0.68 (3.84)	-10.8 (7.85)	-1.625 (3.04)	0.603 (1.79)	-11.668* (5.22)	-1.315 (3.01)	1.325 (2.82)	-2.779 (4.38)	-1.084 (3.33)	1.284 (2.86)	-2.472 (4.83)
High-high attitude importance	-2.209 (1.33)	1.426 (1.67)	-3.723 (2.30)	-2.035 (1.44)	1.781 (1.67)	-3.927* (1.78)	-2.195 (1.45)	1.901 (1.68)	-4.241* (1.84)	-2.104 (1.43)	1.608 (1.24)	-4.12 (2.26)	-2.135 (1.42)	2.201 (1.67)	-4.491* (1.91)	-2.124 (1.37)	2.487 (1.69)	-4.742* (1.90)
High-low attitude importance	-1.943 (1.32)	0.537 (1.66)	-2.492 (2.28)	-1.931 (1.47)	0.593 (1.65)	-2.543 (1.87)	-1.93 (1.49)	0.587 (1.65)	-2.538 (1.92)	-2.047 (1.47)	0.303 (1.29)	-2.325 (2.23)	-2.03 (1.46)	0.52 (1.63)	-2.573 (1.96)	-2.101 (1.39)	0.829 (1.67)	-2.916 (1.90)
High-high attitude importance * RCR	1.687 (2.43)	0.424 (3.07)	1.288 (4.21)	1.164 (3.21)	0.545 (3.06)	0.597 (4.36)	0.42 (4.00)	-0.201 (3.10)	0.723 (4.76)	1.088 (3.22)	0.354 (2.06)	0.838 (4.18)	0.686 (3.24)	-0.914 (3.07)	1.681 (4.66)	0.509 (3.53)	-0.382 (3.13)	0.899 (5.10)
High-low attitude importance * RCR	1.571 (2.41)	0.031 (3.05)	1.757 (4.18)	1.202 (3.18)	0.16 (3.03)	1.226 (4.48)	0.243 (3.94)	-0.156 (3.06)	0.609 (4.82)	1.25 (3.18)	0.28 (2.25)	0.484 (4.12)	1.16 (3.11)	-0.304 (3.00)	1.701 (4.67)	1.026 (3.47)	-0.245 (3.05)	1.499 (5.15)
Dissonant vote against euthanasia				2.947 (1.89)	-1.273 (1.46)	4.608 (2.77)	0.348 (0.60)	-1.729 (1.68)	2.464 (2.65)	-1.246 (1.81)	2.363 (2.26)	2.591 (1.95)	-1.548 (1.49)	4.49 (2.82)	2.598 (2.02)	-1.327 (1.52)	4.267 (2.86)	
Dissonant vote for meat tax				2.641 (1.89)	-0.244 (1.38)	3.204 (2.71)	0.093 (0.74)	0.051 (1.58)	0.234 (2.59)	-0.254 (1.73)	0.193 (2.13)	2.637 (1.89)	-0.351 (1.36)	3.131 (2.64)	2.678 (1.92)	-0.046 (1.40)	3.056 (2.58)	
Dissonant vote against meat tax				2.645 (1.85)	-2.407 (1.37)	5.585* (2.65)	0.166 (0.50)	-2.925 (1.57)	3.679 (2.56)	-2.405 (1.69)	3.641 (2.12)	2.496 (1.83)	-2.499 (1.37)	5.478* (2.58)	2.522 (1.89)	-1.939 (1.43)	4.95 (2.57)	
Dissonant vote against euthanasia * RCR				11.211 (6.61)	1.879 (3.42)	9.33 (7.45)	9.655* (4.61)											
Dissonant vote for meat tax * RCR				10.955 (6.58)	-0.824 (3.23)	12.234 (7.29)	12.444** (4.35)											
Dissonant vote against meat tax * RCR				10.807 (6.60)	2.041 (3.23)	8.583 (7.14)	8.757* (4.35)											
Euthanasia as first topic				-0.733 (0.64)	-1.833* (0.74)	1.368 (1.09)	-0.733 (0.64)	-1.833* (0.74)	1.368 (1.09)	-0.834 (0.70)	-1.799* (0.81)	1.127 (1.10)	-0.691 (0.64)	-1.894* (0.82)	1.379 (1.10)			
Vegetarian							1.209 (0.97)	2.227 (1.19)	-0.937 (1.45)	1.008 (0.95)	2.440* (1.22)	-1.345 (1.43)						
Other values (vegan, vegetariansur, euthanasiacons)																		
Demographic variables (Age, gender, education) constant																		
F	2.500* (1.22)	-1.071 (1.54)	3.571 (2.12)	-0.041 (2.16)	-0.087 (1.94)	-0.315 (2.88)	2.325 (1.39)	0.028 (2.05)	1.979 (2.79)	0.826 (1.91)	1.35 (2.81)	1.586 (2.97)	0.816 (2.31)	1.586 (2.04)	-1.37 (2.97)	0.075 (1.99)	1.701 (3.73)	-2.301 (3.50)
dires	0.91 (2.46)	0.48 (2.46)	0.85 (2.46)	0.58 (2.43)	1.19 (2.43)	1.44 (2.43)	0.55 (2.40)	1.11 (2.40)	1.32 (2.40)	0.88 (2.42)	2.09 (2.39)	2.09 (2.38)	1.12 (2.38)	1.69 (2.38)	1.36 (2.38)	0.99 (2.30)	1.44 (2.30)	1.31 (2.30)
prob > F	0.477 (0.018)	0.794 (0.01)	0.515 (0.017)	0.796 (0.047)	0.304 (0.038)	0.18 (0.058)	0.869 (0.128)	0.356 (0.048)	0.213 (0.089)	0.54 (0.052)	0.071 (0.058)	0.019 (0.095)	0.345 (0.066)	0.064 (0.084)	0.181 (0.076)	0.479 (0.096)	0.103 (0.116)	0.168 (0.114)
R-sqr	-0.002 (0.001)	-0.011 (0.001)	-0.003 (0.001)	0.015 (0.001)	0.006 (0.001)	0.027 (0.001)	0.088 (0.005)	0.005 (0.005)	0.047 (0.005)	0.017 (0.023)	0.023 (0.049)	0.049 (0.025)	0.015 (0.013)	0.034 (0.035)	0.025 (0.025)	0.013 (0.035)	0.035 (0.035)	0.033 (0.033)

\* p<0.05 \*\* p<0.01 \*\*\* p<0.001

Table G.5: the interaction effect of attitude importance and RCR on attitude change

Attitude change regarding:	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6				
	Euthanasia b/se	Total b/se													
RCR	-3.448 (4.47)	-2.016 (3.40)	-2.893 (4.36)	-1.433 (6.11)	-13.281 (8.60)	-1.529 (5.96)	-11.752 (9.69)	-2.464 (4.40)	-0.998 (3.59)	-1.481 (4.53)	0.761 (3.88)	-2.242 (6.49)	-0.907 (4.72)	0.902 (4.02)	-1.809 (6.90)
Attitude importance euthanasia	-0.421 (0.26)	-0.027 (0.32)	-0.459 (0.28)	-0.393 (0.43)	-0.477 (0.29)	-0.138 (0.36)	-0.339 (0.53)	-0.503 (0.29)	-0.135 (0.37)	-0.499 (0.29)	0.015 (0.35)	-0.514 (0.47)	-0.498 (0.27)	0.154 (0.35)	-0.653 (0.46)
Attitude importance meat tax	0.003 (0.15)	-0.134 (0.22)	0.082 (0.18)	0.137 (0.27)	0.061 (0.18)	0.096 (0.31)	-0.035 (0.37)	0.109 (0.19)	0.015 (0.28)	0.091 (0.19)	0.023 (0.27)	0.068 (0.33)	0.103 (0.18)	0.006 (0.26)	0.097 (0.32)
Attitude importance euthanasia * RCR	0.794 (0.56)	0.221 (0.83)	0.712 (0.51)	0.573 (0.83)	0.417 (0.45)	0.506 (0.63)	-0.089 (0.80)	0.743 (0.51)	0.311 (0.55)	0.667 (0.51)	0.183 (0.56)	0.484 (0.82)	0.63 (0.54)	0.179 (0.61)	0.452 (0.87)
Attitude importance meat tax * RCR	-0.475 (0.55)	0.081 (0.79)	-0.5 (0.54)	-0.555 (0.79)	-0.41 (0.50)	-0.427 (0.65)	0.018 (0.75)	-0.54 (0.54)	-0.024 (0.53)	-0.619 (0.57)	-0.208 (0.53)	-0.41 (0.81)	-0.663 (0.54)	-0.198 (0.54)	-0.464 (0.80)
Dissonant vote against euthanasia			3.339 (2.21)	-1.746 (3.00)	5.086 (3.00)	3.322 (2.74)	5.109 (2.99)	3.015 (2.26)	-1.787 (2.03)	5.175 (3.08)	-2.161 (2.09)	5.175 (3.08)	3.094 (2.35)	-1.94 (2.11)	5.034 (3.16)
Dissonant vote for meat tax			3.341 (2.06)	-0.875 (3.03)	4.216 (3.03)	3.392 (2.07)	4.148 (3.02)	3.156 (2.07)	-1.133 (2.07)	4.289 (2.96)	-1.133 (2.17)	4.289 (2.96)	3.392 (2.03)	-0.995 (2.08)	4.387 (2.87)
Dissonant vote against meat tax			3.306 (2.11)	-2.966 (2.08)	6.272* (2.92)	-3.541 (1.86)	4.067 (2.77)	3.33 (2.11)	-2.908 (2.01)	3.169 (2.09)	-3.123 (2.03)	6.292* (2.89)	3.243 (2.10)	-2.648 (1.96)	5.891* (2.83)
Dissonant vote against euthanasia * RCR					13.688 (8.24)	2.716 (3.99)	10.973 (8.94)								
Dissonant vote for meat tax * RCR					12.217 (8.16)	-2.143 (4.07)	14.36 (8.85)								
Dissonant vote against meat tax * RCR					12.502 (8.20)	2.112 (3.87)	10.391 (8.69)								
Euthanasia as first topic								-0.84 (0.68)	-1.971* (0.79)	1.131 (1.03)	-0.954 (0.77)	0.956 (1.13)	-0.817 (0.70)	-2.015* (0.88)	1.198 (1.12)
Vegetarian										1.341 (1.09)	2.425* (0.94)	-1.084 (1.44)	1.2 (1.10)	2.682** (0.97)	-1.482 (1.47)
Other values (vegan, vegetariansur, euthanasiacons)										x	x	x	x	x	x
Demographic variables (Age, gender, education) constant															
F	3.335*	2.579	0.136	1.989	-1.853	2.014	0.914	3.018	-2.443	1.167	3.475	-2.308	0.613	4.466	-3.852
dires	(1.67)	(2.48)	(2.57)	(2.65)	(3.71)	(1.71)	(3.60)	(2.50)	(2.71)	(2.60)	(2.75)	(3.73)	(2.35)	(4.06)	(4.66)
prob > F	0.9	0.2	0.32	0.9	0.95	0.93	0.99	0.87	1.37	0.97	1.83	1.3	0.92	1.44	1.22
R-sqr	246	246	243	243	243	240	240	242	242	238	238	238	230	230	230
R-adj	0.481	0.963	0.903	0.514	0.476	0.509	0.452	0.554	0.204	0.484	0.04	0.212	0.567	0.099	0.238
	0.032	0.002	0.008	0.066	0.025	0.041	0.082	0.071	0.042	0.086	0.065	0.063	0.112	0.092	0.1
	0.012	-0.018	-0.012	0.035	-0.007	-0.003	0.04	0.037	0.006	0.036	0.014	0.012	0.031	0.009	0.018

\* p<0.05 \*\* p<0.01 \*\*\* p<0.001

Table G.6: the interaction effect of attitude importance and RCR on attitude change for the sample data winsorized at the 1th percentile

Attitude change regarding:	Model 1			Model 2			Model 3			Model 4			Model 5			Model 6		
	Euthanasia b/se	Meat tax b/se	Total b/se	Euthanasia b/se	Meat tax b/se	Total b/se	Euthanasia b/se	Meat tax b/se	Total b/se	Euthanasia b/se	Meat tax b/se	Total b/se	Euthanasia b/se	Meat tax b/se	Total b/se	Euthanasia b/se	Meat tax b/se	Total b/se
RCR	-3.589 (4.34)	-1.586 (3.22)	-1.951 (6.01)	-3.101 (4.17)	-1.515 (3.38)	-1.494 (6.02)	-11.611 (7.93)	-0.985 (5.12)	-10.672 (9.19)	-2.667 (4.18)	-0.565 (4.33)	-2.088 (6.05)	-1.859 (4.32)	1.02 (4.36)	-2.908 (6.32)	-1.304 (4.52)	1.397 (4.48)	-2.569 (6.71)
Attitude importance euthanasia	-0.377 (0.23)	0.068 (0.23)	-0.437 (0.39)	-0.406 (0.25)	0.081 (0.27)	-0.481 (0.44)	-0.419 (0.26)	-0.01 (0.31)	-0.397 (0.47)	-0.451 (0.26)	-0.017 (0.30)	-0.42 (0.45)	-0.451 (0.27)	0.115 (0.32)	-0.554 (0.43)	-0.446 (0.25)	0.258 (0.33)	-0.685 (0.42)
Attitude importance meat tax	-0.008 (0.15)	-0.137 (0.18)	0.147 (0.25)	0.06 (0.17)	-0.08 (0.24)	0.155 (0.32)	0.042 (0.18)	0.038 (0.27)	0.004 (0.34)	0.087 (0.18)	-0.021 (0.26)	0.118 (0.32)	0.073 (0.18)	-0.026 (0.26)	0.098 (0.31)	0.088 (0.17)	-0.036 (0.27)	0.125 (0.29)
Attitude importance euthanasia * RCR	0.713 (0.54)	0.19 (0.45)	0.585 (0.80)	0.642 (0.50)	0.198 (0.47)	0.499 (0.79)	0.397 (0.42)	0.427 (0.54)	0.001 (0.76)	0.673 (0.50)	0.267 (0.50)	0.456 (0.79)	0.612 (0.50)	0.146 (0.51)	0.513 (0.79)	0.583 (0.53)	0.127 (0.52)	0.494 (0.85)
Attitude importance meat tax * RCR	-0.32 (0.44)	0.066 (0.52)	-0.445 (0.72)	-0.342 (0.42)	0.054 (0.51)	-0.456 (0.70)	-0.263 (0.43)	-0.359 (0.55)	0.085 (0.70)	-0.383 (0.43)	-0.035 (0.49)	-0.4 (0.70)	-0.444 (0.45)	-0.202 (0.49)	-0.29 (0.74)	-0.5 (0.43)	-0.215 (0.50)	-0.351 (0.73)
Dissonant vote against euthanasia				2.787 (1.80)	-1.381 (1.89)	4.569 (2.77)	0.173 (0.61)	-2.026 (1.70)	2.621 (2.74)	2.769 (1.79)	-1.42 (1.46)	4.593 (2.75)	2.506 (1.85)	-1.783 (1.50)	4.662 (2.85)	2.572 (1.94)	-1.573 (1.53)	4.518 (2.92)
Dissonant vote for meat tax				2.785 (1.73)	-0.835 (2.05)	3.94 (2.84)	0.616 (0.84)	-0.258 (1.68)	1.092 (2.97)	2.886 (1.74)	-0.722 (1.46)	3.87 (2.82)	2.637 (1.77)	-1.061 (1.46)	4.018 (2.79)	2.915 (1.78)	-0.901 (1.49)	4.147 (2.41)
Dissonant vote against meat tax				2.671 (1.73)	-2.535 (1.87)	5.715* (2.70)	0.387 (0.60)	-2.932 (1.60)	3.905 (2.74)	2.696 (1.73)	-2.48 (1.39)	5.681* (2.68)	2.576 (1.72)	-2.732 (1.41)	5.759* (2.68)	2.699 (1.80)	-2.248 (1.47)	5.411* (2.66)
Dissonant vote against euthanasia * RCR				11.153 (6.69)	2.148 (3.43)	8.95 (7.73)												
Dissonant vote for meat tax * RCR				10.013 (6.75)	-1.893 (3.49)	12.265 (7.75)												
Dissonant vote against meat tax * RCR				10.265 (6.72)	1.436 (3.32)	8.572 (7.51)												
Euthanasia as first topic																		
Vegetarian																		
Other values (vegan, vegetariansur, euthanasiacons)																		
Demographic variables (Age, gender, education)																		
constant																		
F	3.078*	0.123	2.766	0.41	1.169	-1.292	2.69	1.172	1.027	0.853	2.14	-1.899	1.411	2.442	-1.76	0.814	2.959	-3.019
dfres	(1.56)	(1.41)	(2.36)	(2.24)	(2.30)	(3.49)	(1.62)	(2.69)	(3.54)	(2.20)	(2.62)	(3.48)	(2.39)	(2.66)	(3.57)	(2.16)	(4.29)	(4.36)
prob > F	0.88	0.21	0.36	0.73	1	0.93	0.66	0.89	1	0.89	1.28	1.03	0.99	1.37	1.31	0.99	1.23	1.23
R-sqr	246	246	246	243	243	243	240	240	240	242	242	242	238	238	238	230	230	230
Readj	0.497	0.958	0.875	0.662	0.44	0.489	0.776	0.553	0.449	0.537	0.247	0.418	0.465	0.176	0.208	0.483	0.23	0.226
	0.026	0.003	0.009	0.054	0.025	0.046	0.127	0.039	0.073	0.061	0.046	0.05	0.074	0.07	0.06	0.103	0.101	0.098
	0.006	-0.017	-0.012	0.023	-0.007	0.015	0.087	-0.005	0.031	0.026	0.01	0.015	0.024	0.019	0.009	0.021	0.019	0.015

\* p<0.05 \*\* p<0.01 \*\*\* p<0.001

