

Hearing the other side? – Debiasing political opinions in the case of the Scottish Independence Referendum

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Abstract

This study reports the effects of two debiasing-strategies on the complexity of people's thinking on a controversial policy issue – the question of Scottish independence. I start from the well-researched assumptions of motivated reasoning theory that individuals tend to protect their beliefs, are often not willing to hear the other side, and fail to integrate contrasting arguments and different perspectives in their political considerations – although considering different viewpoints is a fundamental normative requirement for democratic decision-making. Two different debiasing techniques, which are meant to counteract this tendency, and to evoke more integrative and complex thinking, were tested experimentally, a cognitive and a motivational strategy. The experiment was situated in the context of the Scottish independence referendum. The expectation of *accountability* – having to justify one's opinion in front of unknown others – significantly enhanced integrative complexity of thinking about the issue, while inducing subjects to *consider the opposite* had a no significant effect. Opinion strength and political knowledge did not affect the treatment effects significantly.

Introduction

Biases in political thinking have received much attention in political psychology and their pervasiveness is by now well documented (Lau and Redlawsk 2001; Leeper and Slothuus 2014; Redlawsk 2002). As Taber and Lodge (2006, 576) have noted, in politics “all reasoning is motivated”. New questions arise now however: What is a considered and unbiased opinion? Which psychological mechanisms underlie motivational and cognitive biases? And how can such biases be counteracted? These questions have received much less attention so far (Bolsen, Druckman, and Cook 2014). As Druckman (2012) pointed out, motivated reasoning occurs under certain conditions and depends on an individual’s motivation and the context. He considers the role of different conditions in prompting accurate versus motivated reasoning a “particularly fruitful area in need of more study” (p. 206). The present study approaches these questions by testing two different debiasing mechanisms. To this purpose, a laboratory opinion experiment was run in the forefront of the Scottish independence referendum. I found that announcing that subjects will have to justify their opinions in a group discussion at the end of the experiment (‘accountability’), has a positive effect on the considerateness of subjects’ opinions. A considered opinion is defined as one which integrates different perspectives of an issue and which is well justified with substantive arguments. This study adds to a recent debate in political psychology on the conditions, under which motivated reasoning occurs in offering possible strategies to reduce it. The paper proceeds as follows: I start by explaining the main concepts and by developing hypotheses. Next, I describe the experimental design. Finally, I present and discuss the results.

Motivated reasoning and considered opinions

Citizens' participation in political decisions constitutes the very essence of democracy. Ever since democracy exists, citizens' competence to participate in political decisions has been questioned though. This is true for representative democracy, but the scepticism is even greater for direct democratic decisions where citizens decide over policy matters themselves. Citizens' low political knowledge levels have been criticised ever since public opinion research exists (Converse 1964; Delli Carpini and Keeter 1996). More recently however, the question arose whether high political knowledge is an adequate measure of citizens' competence at all – as political scientists discovered the concept of motivated reasoning (Kunda 1990; Lau and Redlawsk 2006; Lodge and Taber 2013; Redlawsk 2002; Redlawsk and Lau 2005; Charles S Taber and Milton Lodge 2006). Motivated reasoning describes a process whereby (political) reasoning is not necessarily led by a goal to be accurate (an *accuracy goal*) – which would correspond to a normative ideal - but more often by *directional goals*, such as a personal motivation to protect existing beliefs or to follow a certain party line. A directional goal is defined as “when a person is motivated to arrive at a particular conclusion” (Kunda 1999, 236). This means that citizens select and process information in a biased way, preferring information that is consistent with their existing knowledge and disregarding and/or devaluating incompatible information. Motivated reasoning is different from simple cue-taking (e.g. following a party cue to make a political decision) – which is used as a shortcut to avoid the effort of processing political information (Lupia, McCubbins, and Popkin 2000) – here individuals use arguments and information about the issue at stake – but they use it to confirm a certain position.

The research on motivated reasoning is based on earlier studies on belief protection and a confirmation bias in social judgments conducted in social psychology (Lord, Lepper, and Preston 1984; Lord, Ross, and Lepper 1979). These earlier authors found that, upon exposing subjects to balanced information on political questions such as the death penalty, they tended to give more weight to the information compatible with their previous opinion about the topic. Due to this mechanism, not only a belief perseverance tendency, but even a polarization of opinions was observed. Recent studies have found evidence for motivated reasoning processes on political opinions on such different issues as the 2003 Iraq war (Gaines et al. 2007), political corruption in Spain (Anduiza, Gallego, and Muñoz 2013), climate change policies (Hart and Nisbet 2011), perceptions of the economy (Evans and Andersen 2006; Gerber and Huber 2010; Ramirez and Erickson 2014), or welfare and health care policies (Bullock 2011; Cohen 2003). At the same time, partisan biases – when political thinking is led by the motivation to follow a certain party line – have received much attention (Bartels 2000, 2002; Lebo and Cassino 2007; Levendusky 2010; Lupia, McCubbins, and Popkin 2000). Leeper and Slothuus (2014) give an excellent review of the recent debates on motivated reasoning.

Given the intense research interest in motivated reasoning and biased thinking, it is surprising that only little thought has been devoted to the question how to counteract these biases and how to foster considered opinions. So far, political scientist have concentrated on analysing various factors moderating biased thinking – in particular political sophistication, opinion strength, elite polarization, and message repetition (Druckman, Peterson, and Slothuus 2013). Only very recently the question about the impact of motivations and cognitive mechanisms at the time of

opinion formation was raised (see Leeper and Slothuus 2014, Bolsen et al. 2014). The present study adds to this current debate by testing the effect of two different experimental stimuli on the considerateness of political opinions.

Why is it important to study “considerate opinions”? This is a concept which has not received much attention in political psychology and public opinion research so far. I think it is worth exploring this concept more in depth for at least two reasons. First, on a theoretical level, a political decision taken by citizens who hold well considered opinions is more legitimate. On the one side, considerate opinions are supposed to be more resistant to manipulation by elites and news media. The concern that elites and opinion leaders might manipulate public opinion is an old one (Katz 1957; Schattschneider 1975; Schumpeter 1950). More recently, the large literature on framing effects has shown (Chong 2013; Chong and Druckman 2007; Druckman, Peterson, and Slothuus 2013; Sniderman and Theriault 2004) how citizens’ opinions are often malleable and susceptible to the way, political information is presented to them. The problem then is that citizen opinions when they are manipulated do not anymore reflect their values and political predispositions.

But not only elite manipulation or distorted information can be problematic: as the literature on motivated reasoning summarized above shows, we often follow ‘in-built’ cognitive biases and heuristics when we form our opinions, such as trying to protect our own beliefs or blindly following party cues. These cognitive heuristics can constitute efficiency-enhancing shortcuts, which bring us to a reasonable decision with less effort, as has been argued by some (Bowler and Donovan 1998; Lupia 1994; Lupia, McCubbins, and Popkin 2000). But they may also lead us astray, if we blindly

rely on our party's position or if we are not ready to update our opinions in light of new evidence.

Second and related to the first point, on an empirical level the study of citizens' competence has often focused on factual political knowledge (Lavine, Johnston, and Steenbergen 2012). The gold standard of the knowledgeable citizen is called in question though, by studies which find that often the more knowledgeable are more prone to cognitive biases such as motivated reasoning. Thus, it is important that opinions are not only informed, but also well considered (Fishkin 2006). Therefore, I present an attempt to move in the direction of measuring 'considerate opinions' in order to assess citizens' competence instead of relying exclusively on factual knowledge scores. The present study presents a suggestion of how such a considered opinion could be operationalized empirically.

The questions how to define and measure considered opinions is not trivial. One option, which is compatible with a deliberative model of democracy, is to set the consideration of different viewpoints and alternative arguments, as well as the ability to justify one's position, as a key requirement for citizens' participation in democratic decisions (see e.g. Bächtiger and Wyss 2013; Fishkin 2009; Gerber et al. 2014; Lavine, Johnston, and Steenbergen 2012; Luskin, Fishkin, and Jowell 2002; Minozzi, Neblo, and Siegel 2012). Thus for the present study, a considered opinion is defined as one which integrates arguments of different sides and one which can be well justified by substantive reasons.

On the level of individual citizens, we lack knowledge on how exactly – through which psychological mechanisms – exposure to differing viewpoints affects opinion

formation, and in particular, through which mechanism belief protection biases are reduced. There are at least two possible experimental stimuli which might foster considered opinions. Both have been discussed mainly in social psychology under the heading of 'debiasing strategies' (Fischhoff 1982). Debiasing strategies are defined as techniques that eliminate bias or diminish its intensity or frequency. Thereby "the goal of debiasing techniques should be to help people grasp and appreciate alternative points of view, not necessarily to accept them as equally valid or moral (Lilienfeld, Ammirati, and Landfield 2009). First, the fact that participants are explicitly *induced to consider different viewpoints* on an issue, might enhance the cognitive accessibility of opposite information. Social psychologists have argued that a biased preference for pre-existing opinions can be counteracted by a '*consider the opposite*' strategy (Fischhoff 1982; Hirt, Kardes, and Markman 2004; Lord, Lepper, and Preston 1984; Mussweiler, Strack, and Pfeiffer 2000). Thereby individuals are instructed to think explicitly about the arguments of the opposite side, and this process is supposed to make this information accessible in memory, leading to more balanced, unbiased and well-justified opinions. From this research, I derive a first hypothesis:

H1: *Being induced to consider arguments of the opposite side leads to more considered opinions*

The consider-the-opposite strategy is a *cognitive* debiasing-mechanism, as it is assumed to enhance the cognitive accessibility of diverging information in memory. The assumption behind H1 is that individuals in general are motivated to be accurate, but they often disregard attitude-incongruent information simply because it requires more cognitive effort to process.

Second, the conventional approach within psychology for *inducing an accuracy motivation* is to tell them they would later have to justify the reason for their judgments. Accountability – i.e. the pressure to justify one’s opinion to others – was found to “motivate complex (effort-demanding) information processing by increasing the importance of avoiding ‘bad’ judgments (embarrassment, loss of self-esteem) and of making ‘good’ judgments (praise, status)” (Tetlock 1983, 74). Subjects expecting accountability were found to be more likely to consider various options, more receptive to new evidence, more tolerant for inconsistency, and to focus more on the content of a message than on its source (Bolsen, Druckman, and Cook 2014; Chaiken 1980; Green et al. 2000; Klahr 2013; Kruglanski and Freund 1983; Tetlock 1983). Based on these findings, I derive a second hypothesis:

H2: *The expectation of accountability leads to more considered opinions*

In contrast to the consideration of contrasting viewpoints, accountability constitutes a *motivational* debiasing strategy, as it induces a motivation to be accurate. The assumption behind hypothesis 2 is that individuals in general are rather motivated to protect existing beliefs than to be accurate. Inducing an accuracy motivation will lead subjects to “evaluate political arguments with the hope of reaching an outcome that is the correct or otherwise best conclusion” (Bolsen et al. 2014, 238). As the authors further note, individual motivations in evaluating information in the context of opinion formation constitute “one factor that has not been examined by political scientists” (237). Furthermore, Leeper and Slothuus (2014, 149) argue that “demonstrating the impact of motivations is critical to disentangling whether goals

[i.e. motivations] as opposed to some other cognitive processes are at work". This is what the present study aims at.

Beyond the general effects of the two debiasing techniques, the differential effects dependent on subjects' opinion strength and political sophistication are interesting. Interestingly, some studies have found motivated reasoning and belief protection to be just as strong (Cohen 2003; Taber, Cann, and Kucsova 2009) or even stronger in highly politically knowledgeable individuals than in low knowledgeable (Meffert et al. 2006; Mutz 2006; Charles S. Taber and Milton Lodge 2006), while others found a reduction of bias among highly knowledgeable (Anduiza, Gallego, and Muñoz 2013; Arceneaux 2008; Kam 2005). Furthermore, various studies have found an attitude strength effect, meaning that citizens holding stronger attitudes on an issue, because the issue is of high personal relevance to them, are more prone to motivated reasoning (Druckman, Fein, and Leeper 2012; Holbrook et al. 2005; Charles S. Taber and Milton Lodge 2006). It is not clear, however, how debiasing-effects might be moderated by these two variables.

I expect a *negative political sophistication effect*, such that subjects with high political knowledge react less strongly to the treatments than low-knowledge subjects. Because they dispose of more political knowledge resources and because they are better capable of processing complex information, I expect more politically sophisticated subjects to be better able to protect and justify their priors even when induced to more balanced and considerate thinking.

In addition, I expect a *positive attitude strength effect*, that is I expect subjects who hold strong opinions on the issue at stake to react more sensibly to the debiasing

treatments. Subjects holding strong opinions are the ones who consider the issue as personally relevant, so these are the ones who are most involved and who have most at stake. For these reasons I expect them to be more readily willing to react to the stimuli which induce consideration and complex thinking on the issue.

H3: *Both debiasing mechanisms have a weaker effect on subjects with high political knowledge*

H4: *Both debiasing mechanisms have a stronger effect on subjects for whom the issue at stake is of high personal relevance*

Summing up the preceding paragraphs, ideally, citizens would consider different arguments before making political judgments, but in reality belief protection motivation and other cognitive biases often hinder this consideration of different viewpoints. The question is then, how can citizens readiness to think through and integrate different arguments be enhanced, and thus how can considered opinion be fostered¹? The issue considered in this study, the question of Scottish independence, is a real-life, salient and controversial issue – an issue which motivates people and where listening to the other side is particularly difficult. For such an issue it might also be more difficult to find debiasing effects. Nevertheless, it is important to understand how citizens reason on such divisive issues.

¹ Note that I am interested in the considerateness of subjects' opinions, and not in the *position* subjects take on a particular issue, as from a normative perspective the position, i.e. agreement or opposition to a policy, is independent of the considerateness of the opinion.

Research Design

A laboratory experiment was conducted previous to the referendum on Scottish independence, taking place in September 2014. The Scottish independence referendum is one of few national-level referendums, where people decide over a substantial political change which affects their lives. The independence question is a highly salient issue, as well as a very controversial one where there are two clearly contrasting positions – a situation in which listening to the other side and holding considered opinions is difficult. The question posed to citizens is: “Should Scotland be an independent country?”. The debate involves questions of Scottish identity, but also economic concerns and other pragmatic issues such as EU-membership, the future currency, national defense, higher education funding, and welfare questions.

The experiment took place during one week in April 2014 and involved 179 students from a Scottish University. All subjects were eligible and 75% reported their intention to vote in the referendum. In order to avoid testing effects by asking subjects for their opinion before and after the treatment, a *between-groups design* involving a control group and two treatment groups was employed. Upon arrival in the lab, the subjects were randomly assigned to the different treatment conditions (the treatments were randomized within sessions). The experiment was programmed with Qualtrics². The experiment consisted of four parts: a pre-treatment questionnaire containing socio-demographic information and a political-knowledge quiz; the treatment (reading a

² <http://www.qualtrics.com/>

set information material on Scottish independence under different instructions); a set of opinion measures on Scottish independence (outcome measures); and, finally, a post-treatment questionnaire containing additional measures. The entire session lasted between 45 and 60 minutes.

Stimulus material³: All subjects were exposed to a balanced set of 4 pro- and 4 contra-arguments on Scottish independence. Through these readings a baseline condition was created, where all subjects shared at least a minimal common knowledge base, in order to avoid the problem that the variance in opinion complexity is determined mainly by individuals' prior knowledge of the issue. In other words, the fact that all subjects shared the information in these readings makes it possible to attribute differences in post-treatment opinion complexity to the respective treatments. Following the procedure used in various framing experiments (Druckman, Peterson, and Slothuus 2013) the relevant arguments were identified through a content analysis of media coverage, and expert interviews. 10 UK - political scientist were asked to rate the direction and strength of various arguments and to list their own thoughts on Scottish independence. Considering their answers, the 4 most prominent arguments were selected for each side. The arguments were all drawn from print and online publications of Scottish and British newspapers and from official documents by the Scottish and British government. The arguments were of

³ The arguments as well as more detailed information about the drafting of the stimulus material can be found in the online appendix.

comparable complexities and all were about 200 words long in order to avoid confounding effects on opinions.

Treatments: Subjects in the ***control condition*** were instructed to read the stimulus material carefully and to report their opinion afterwards. In order to avoid rank order effects, the arguments were presented in a randomized order in all treatments. In addition, there were two different debiasing treatments. In the ***'consider-the-opposite'*** condition, subjects received the same set of arguments to read with an additional instruction, which read:

"While reading the articles, please write down all the arguments that would be used by the opposite side, i.e. all the arguments that a proponent of the side opposite to yours would use to convince you. That is, if you tend to support independence, write down the arguments of a pro-unionist and if you tend to oppose independence, write down the arguments of an independence supporter. Please use the paper and pencil on the table in front of you"

In the last treatment group, the ***'accountability'*** condition (TG2), subjects learned before reading the arguments, that they would be asked to participate in a group discussion at the end of the experimental session. Here the instruction read:

"At the end of the study, you will be asked to justify your opinion on the issue of Scottish independence to the other participants in a short group discussion. The discussion will take place in this room once everyone is done with the computer tasks. The discussion will help us understand the interpersonal communication of attitudes. Please note that the lab managers will take notes on this discussion, keeping the identity of participants completely anonymous."

A brief group discussion took place at the end of the session participants had the chance to express their opinions⁴.

Measures: I am interested in two substantive outcome measures indicating considered opinions. First, *integrative complexity of justification*, and, second, *argument strength ratings*.

*Integrative complexity of justifications*⁵: The main outcome measure is a justification paragraph written by the subjects, which was coded for integrative complexity (IC) (Suedfeld, Tetlock, and Streufert 1992). All subjects across all three groups were asked to justify their position on Scottish independence by the following instruction: “Please justify your position in one paragraph (4/5 sentences)”. Note that the justification paragraph was written *after reading the arguments, but before the discussion took place*.

High IC scores indicate considered opinions. IC is a measure composed of two cognitive structural properties: differentiation and integration. While differentiation refers to the number of characteristics or dimensions of a problem that an individual takes into account, integration refers to the development of complex connections among these different characteristics (Suedfeld and Tetlock 1977; Tetlock 1983). In the present study, I am mainly interested in the occurrence of integration. Low

⁴ Participation in this discussion remained voluntary however, as we did not want to force anyone to disclose an opinion in public.

⁵ See online appendix for coding examples

differentiation is reflected by a tendency to focus on only one theme or aspect in the analysis and to rely on simple, one-dimensional rules without qualification (e.g. “Independence is economically unviable”), while higher levels of differentiation are reflected in the recognition and acceptance as valid and legitimate of either alternative perspectives (i.e. pro and contra independence arguments), or different dimensions of an issue (e.g. support for independence for reasons of national identity, financial wealth and democratic representation). Integration is inferred when different elements are linked conceptually. Integration can be expressed through the recognition of interactive causality, such as the idea that which position is taken depends on the perspective. The recognition of value-trade-offs and the suggestion of solutions in the form of overarching principles of perspective are also signals of integration (for example the recognition of a trade-off between stronger democratic representation through independence and the short-term economic risks which can be expected is a sign of integration).

The assessment of integrative complexity typically proceeds on a 7-point scale, where 1 implies neither differentiation nor integration, 3 indicates differentiation but no integration, and 4-7 signal varying levels of integration of perspectives and/or dimensions. Differentiation is thus a necessary but not sufficient prerequisite for integration. More than 40% of the subjects reached a score of 3, indicating high differentiation (see online-appendix), while only few subjects reached a score of 4 or higher, which is indicative of integration of perspectives. In our student sample thus giving a highly differentiated justifications appears to be an easy task – thus the interesting question in the present sample is whether subjects were able to integrate different perspectives in their justifications. Therefore, I use the *binary distinction*

between justifications with and without integration as a dependent variable. For this purpose, scores of 4 and higher were coded as 1, and all other scores were coded as 0 (see Tadmor and Tetlock 2009). Over the entire sample, 81.5% of subjects score 0 (no integration) while 18.5% score 1 (indicative of integration).

The coding was conducted by a certified coder following the coding manual for cognitive complexity (Baker-Brown et al. 1992)⁶. To test for the reliability and objectivity of the coding, a second, independent, certified coder re-coded a random sample of 50% of all justification paragraphs. The two coders achieved a high interrater agreement of $\alpha = 0.89$.

Argument strength rating: After reading each argument, subjects were asked to rate its strength on a 10-point scale (where 0 means extremely weak and 10 extremely strong). Thereby subjects were explicitly instructed to focus on the strength of the argument and not on whether they agree or disagree with it. This measure was used in previous studies to measure a ‘prior attitude effect’ on argument ratings (Petty and Krosnick 1995; Charles S Taber and Milton Lodge 2006). With regard to the debiasing treatments, it captures whether subjects are willing to give some credit to the arguments of the opposite side, even if they don’t agree with them, which is taken as

⁶ Both coders completed an online training workshop

(<http://www2.psych.ubc.ca/~psuedfeld/Workshop.html>). After a coding training with 10 sets of different paragraphs provided by the integrative complexity online training workshop, the coder completed an official test set consisting of 30 different paragraphs, which was sent for correction to professional coders. In line with the reliability requirements, she achieved a test-reliability of higher than .85 with an expert coder. The minimum score assigned was 1 and the maximum score 6.

an indicator of a considered opinion. The mean strength rating for the whole sample was 6.04 for pro-arguments and 6.15 for con-arguments.

Additional measures included *political knowledge*, measured by an index based on a political knowledge quiz which was part of the pre-treatment questionnaire (ranging from 0 to 17 points). *General interest in politics* was measured on a 5-point scale. *Opinion strength* was measured with a conventional item asking: “Compared to how you feel about other public issues - such as immigration, environment, foreign policy, etc. - how strong are your feelings regarding the issue of Scottish independence?” (0-10 response scale with 0 indicating not at all strong and 10 very strong). Table A1 (appendix) shows summary statistics of the additional variables.

Balance tests: To check whether the randomization procedure resulted in a balanced distribution of individuals over the experimental groups, a series of balance tests on pre-treatment variables⁷. These tests did not yield any significant differences between treatment groups, except for gender, which is not balanced over groups. As none of the hypotheses concerns gender effects, I decided to run the experiment on the whole sample and to introduce gender as a control variable in the robustness tests.

⁷ The variables were: political interest, political knowledge, age, personal importance of the issue, likelihood to vote, feeling of Scottish identity, country of origin, residence, student status, gender. ANOVA was used for quantitative variables, Kruskal-Wallis rank tests for categorical variables, and proportion tests for dichotomous variables.

Analysis

Integrative Complexity

In a first part of the analysis, I test whether the treatments have an effect on the integrative complexity of subjects' justifications for their position on Scottish independence. Let us first examine the difference in integrative complexity across experimental groups for all subjects in the sample: As figure 1 shows, in the accountability group, as compared to the control group, there is more than double the share of high ic-scorers (12% vs. 25%, $p > 0.04$). This difference is substantive and statistically significant at the 5% level (Table A2 in the appendix summarizes the results of the difference-test between groups). In the consider-the-opposite group, in contrast, there are 7 percentage points more subjects with a high ic-score as compared to the control group, this difference is not statistically significant⁸.

⁸ The analysis of treatment effects on the 7-point ic-measure yielded similar results, providing additional evidence for the robustness of the findings: Relative to the control group, the consider-the-opposite treatment leads to an increase of 0.26 points in mean ic-score ($p < 0.07$) and the accountability treatment leads to a 0.31 points increase ($p < 0.06$). Again, the effects were stronger for strong opinion holders, where the consider-the-opposite treatment has an effect of +0.61 points ($p < 0.01$) and the accountability treatment has an effect of +0.32 points (n.s.). For the highly sophisticated the the consider-the-opposite treatment has an effect of +0.42 points ($p < 0.05$), while the accountability treatment has an effect of +0.3 (n.s.). See online appendix for more information. The magnitude of these effects is comparable to previous studies of integrative complexity (see e.g. Tadmor and Tetlock 2009).

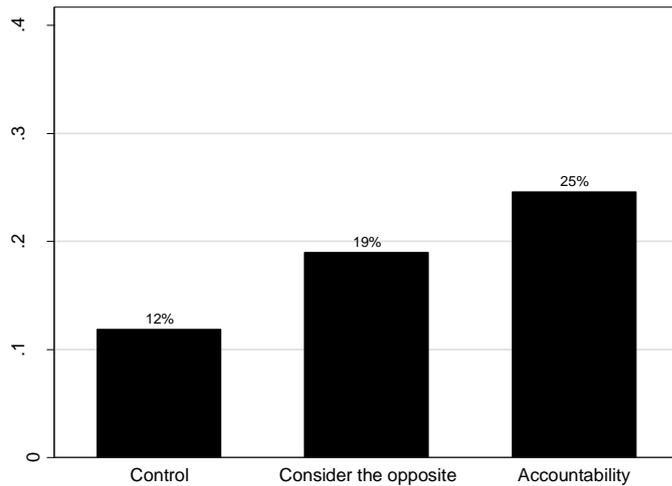


Figure 1. Proportion of high ic-scores over experimental groups.
Notes: y-axis: proportion of high ic-scores in the sample (N=178). X-axis: experimental groups

Looking at subsamples of subjects divided by their political knowledge levels shows a similar picture (see figure 2 and table A2): The consider-the-opposite treatment has small positive effects on integrative complexity, with an 8% rise in high ic-scores for highly knowledgeable and a 5% for less knowledgeable individuals (n.s.). Accountability has a stronger effect, with an increase from 10% to 22% (n.s.) for the less knowledgeable and from 14% to 28% ($p < 0.1$) for the highly knowledgeable subjects. Even though the treatment effect is significant only for high knowledge subjects, the substantive effect is comparable for both subgroups. While more knowledgeable subjects show higher ic-scores in general, there are no substantial differences in the treatment effects between subjects with high vs. low political knowledge levels.

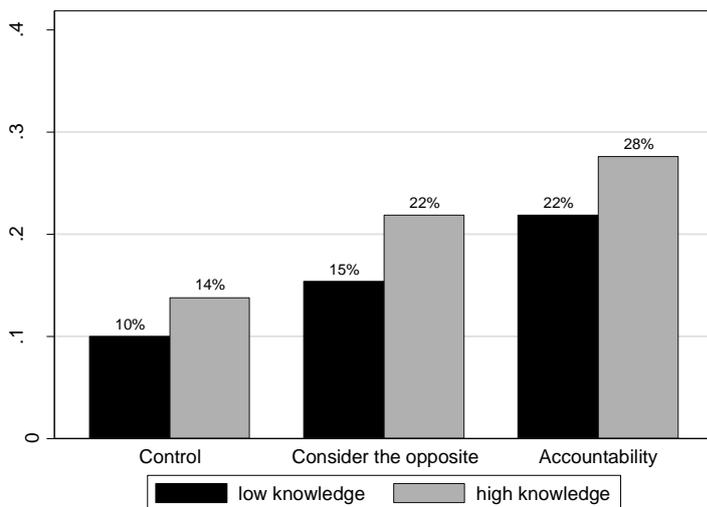


Figure 2. Proportion of high ic-scores over experimental groups by political knowledge. *Notes:* y-axis: proportion of high ic-scores in the sample (N=178). X-axis: experimental groups. The grey bars present the treatment effects for subjects with high political knowledge (N=90), while the black bars represent the results for subjects with low political knowledge (N=88).

The reaction to treatment looks different however for subjects with strong opinions, who react more strongly to both treatments (see figure 3 and table A2). While there are no significant differences across treatment groups for subjects with weak opinions, subjects holding strong opinions in the consider-the-opposite group show 16 percentage points more high ic-scores ($p < 0.04$) than in the control group. In the accountability group this share even rises by 18% to 26% ($p < 0.03$). This result has to be interpreted with caution though, as, due to the small sample size, none of the interaction effects between the treatments and the knowledge and opinion strength variables are statistically significant (see table A3 in the appendix).

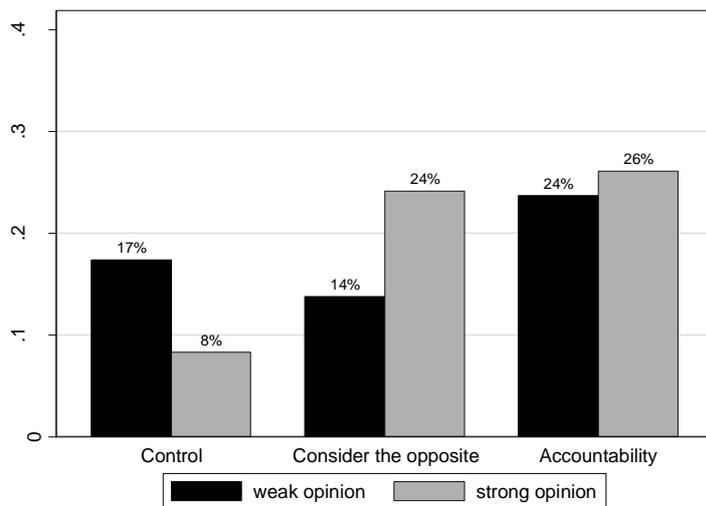


Figure 3. Proportion of high ic-scores over experimental groups by opinion strength

Notes: y-axis: proportion of high ic-scores in the sample (N=178). X-axis: experimental groups. The grey bars present the treatment effects for subjects holding strong opinions (N=89), while the black bars represent the results for subjects holding weak opinions(N=89).

Robustness of findings on integrative complexity

The difference-in-proportion tests presented above provide an easily understandable technique to assess the differences in outcome variables across treatment groups. In addition, I tested the robustness of these findings, controlling for other factors that might have an influence. This procedure is suitable to increase the precision of the estimation (Angrist and Pishke 2008).

Table I: Robustness tests integrative complexity

	ACCOUNTABILITY				CONSIDER THE OPPOSITE			
	Model 1		Model 2		Model 1		Model 2	
	Coef. (SE)	p<	Coef. (SE)	p<	Coef. (SE)	p<	Coef. (SE)	p<
Treatment	0.885 (0.503)	0.07 8	1.071 (0.543)	0.04 9	0.554 (0.526)	0.29 3	0.668 (0.566)	0.238
Gender			1.287 (0.674)	0.05 6			1.032 (0.638)	0.106
Political knowledge			0.055 (0.089)	0.53 8			0.136 (0.097)	0.162
Political interest			0.497 (0.330)	0.13 2			-0.169 (0.259)	0.515
Constant	-2.006 (0.405)		-4.725 (1.552)	0.00 2	-2.006 (0.405)	0.00 0	-3.713 (1.376)	0.007

Note. Logit estimates of binary integrative complexity measure (high = 1 / low = 0); Standard errors are in parentheses. Statistically significant differences ($p < 0.1$) in bold letters. The left-hand panel shows the results for the accountability treatment and the right-hand panel shows the results for the consider the opposite treatment. The samples include only the control group and the respective treatment group.

For this purpose, I run individual level logit models to estimate integrative complexity scores as a function of each subject's gender, political interest, political knowledge, and opinion strength. I include gender because it was unbalanced over treatment groups, as well as political knowledge and political interest, which are theoretically linked to ic.

The results are presented in table I. Model 1 presents the results of the treatment effects without controls, while in model 2 I add the controls. Table I shows that accountability has a strong and robust significant positive effect on integrative complexity.

Argument strength ratings

In the second part of the analysis, I test for an attitude bias on argument strength ratings (0-10 scale), by comparing the average strength ratings for attitudinally congruent and incongruent arguments. I expect subjects to rate attitudinally congruent arguments as stronger than attitudinally incongruent arguments. The attitude is defined through the subjects' reported vote intention with subjects answering yes labeled as 'Pro' and subjects answering no as 'Con' independence (the undecided were excluded in order draw a clear distinction in attitude).

Figure 4 displays the mean pro- and con-argument ratings by attitude, broken down by opinion strength (left side) and political knowledge (right side). Dark bars represent average strength ratings for pro arguments, light bars for con arguments; the first pair of bars shows the responses of proponents of the issue, and the second pair shows responses of opponents. As we can see, over all subsamples, congruent arguments are rated as substantively stronger than incongruent arguments, indicating an attitude congruence bias on argument ratings as expected. The differences in mean strength ratings range from 1.3 to 3.1 on an 11-point scale. The effect is stronger for subjects with high political knowledge and holding strong opinions.

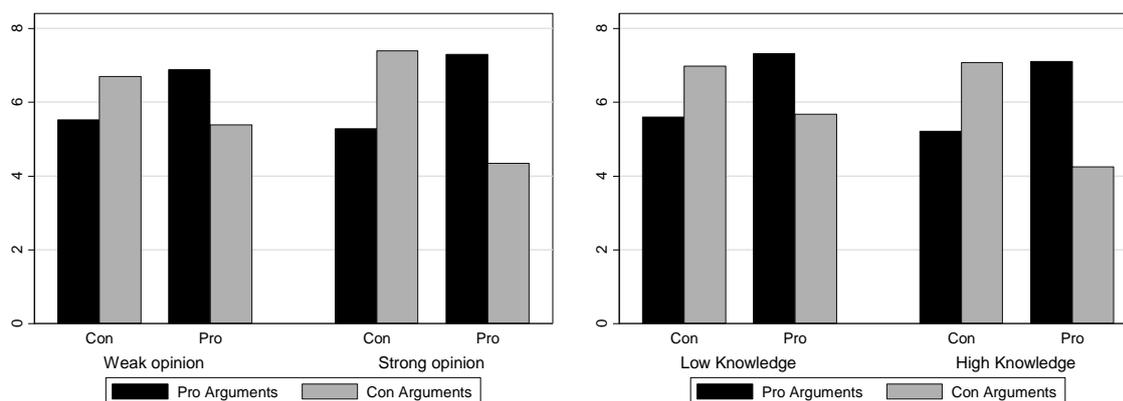


Figure 4. Argument strength ratings, by opinion strength and political knowledge
Notes: y-axis: Subjects average argument strength rating (ranging from 0 to 10). The left-hand panel presents the results for the subject sample (N=178) split by opinion strength, the right-hand panel presents the results for the sample split by political knowledge. In addition, both panels are sub-divided into independence-opponents (Con) and independence-supporters (Pro). Black bars represent average strength ratings of pro-arguments, while grey bars represent average strength-ratings of con-arguments. *Reading example:* Independence-opponents holding strong opinions give the contra-arguments an average strength rating of around 7 out of 10 points, while independence supporters give the same contra-arguments a strength-rating of little more than 4 points.

Table II reports regression analyses of independence attitude on argument strength ratings. Subjects overall argument strength rating (the dependent variable in table II) was computed as the sum of ratings of the pro arguments minus the sum of ratings of the con arguments (ranging from -40 to +40). To test for an attitude effect, these gaps in argument strength ratings were regressed on attitude. In all models, the coefficient of independence attitude on argument strength ratings is positive and highly statistically significant, indicating that subjects rate attitudinally congruent arguments as significantly stronger than incongruent ones (see Taber & Lodge for an analogous procedure). Note that these results are obtained despite the explicit instruction to abstract from the own attitude and concentrate on the strength of

arguments, and despite the fact that over the whole sample, as well as in pre-tests, the pro and con arguments were rated as almost equally strong.

Models 2 and 3 include coefficients for the effects of the treatments as well as interaction terms between treatments and attitude. Looking at the interaction terms we see that the consider-the-opposite treatment did not reduce the gap in mean strength ratings between pro- and con-independence subjects. Accountability reduced the gap by almost 4 points (on a range of -40/+40), but this result is not statistically significant., there was a reduction of the gap in the accountability group.

By how much was the gap in ratings reduced? The difference in mean argument strength rating between subjects who are pro and con independence is 17.6 points in the control group and 14.3 points in the accountability group. Thus accountability reduces the gap in predicted ratings by almost 4 points (on a range of -40/+40)⁹. This interaction effect is not statistically significant however, and therefore we cannot conclude with sufficient certainty that accountability leads subjects to give the other side more credit.

⁹ In comparison, the gap in ratings is 8 points larger for highly sophisticated subjects as compared to low sophisticated (11 vs. 19 points) and it is 9 point larger for strong opinion holders than for weak opinion holders (11 vs. 20 points). The latter two interaction terms are statistically significant (see table II). This tells us that there is a moderating effect of sophistication and opinion strength on the congruence gap in argument strength ratings, analogous to Taber and Lodge (2006).

Table II. OLS regressions of argument strength ratings on independence attitude, including interaction effects of treatments and moderators¹⁰

Variable	model 1		model 2		model 3		model 4		model 5	
	Coefficient (SE)	p<								
independence attitude	16.455 (1.39)	0.000	17.574 (2.34)	0.000	17.574 (2.34)	0.000	11.333 (1.51)	0.000	11.098 (1.53)	0.000
consider the opposite			-2.19 2.313	0.346						
cto*attitude			0.968 3.515	0.784						
accountability					2.365 (1.73)	0.175				
accountability*attitude					-3.318 (3.31)	0.319				
political knowledge							-1.885 (1.73)	0.279		
knowledge*attitude							7.835** (2.51)	0.002		
opinion strength									-3.716* (1.73)	0.033
strength*attitude									8.998*** (2.54)	0.001
_cons	-6.455*** (0.85)	0.000	-6.852*** (1.16)	0.000	-6.852*** (1.16)	0.000	-5.533*** (0.92)	0.000	-4.723*** (0.93)	0.000
N	139		89		95		139		139	
Adjusted R ²	.51		.57		.52		.53		.54	

Note. Dependent variable: argument strength rating (-40 / +40). Standard errors are in parentheses. Statistically significant differences (p<0.1) in bold letters; the effect of the treatment groups was calculated as compared to the control group only, excluding the subjects in the other treatment group.

¹⁰ Threeway-interactions between moderators, treatments, and attitude did not yield any significant effects. They are not reported here, as the small sample size makes it difficult to get reliable results for threeway-interactions. Test on subsamples within treatment groups however yielded a stronger debiasing effect among low-knowledge subjects in both treatment groups, indicating that here debiasing is stronger for subjects with low knowledge. Also these subsamples are very small though, which renders the regression results less reliable.

Discussion

This study finds that the expectation of accountability has a strong positive effect on the integrative complexity of subjects' justifications – being held accountable led to more considered opinions as defined in the introduction. The results are less clear for considering-the-opposite however. Considering-the-opposite seems to work mostly with subjects holding strong opinions. I conclude that hypothesis 2 can be accepted, while there is some – but no definitive – evidence for hypothesis 1.

The finding that accountability increases cognitive complexity confirms that there is clearly a motivational component to political thinking – as soon as we are motivated to be accurate because we expect to justify ourselves to others (and want to avoid embarrassment), we start integrating different perspectives in our opinions, making them more complex. It is thus not merely the presence and availability of even-handed information per se (which was given in all three groups) that enables people to make complex judgments – the informational environment must meet the appropriate motivation or goal in an individual – that is a goal to be accurate.

Debiasing works in the same way for highly politically knowledgeable subjects as for the less knowledgeable (even though the highly knowledgeable show significantly higher levels of integrative complexity in general). Hypothesis 3 has thus to be rejected, political knowledge does not moderate the effect of debiasing techniques. At the same time, we find some preliminary evidence for hypothesis 4: The treatments have stronger effects on subjects with strong opinions. Subjects who feel strongly about independence might simply have put greater effort in the experimental tasks at hand. On the other side, this might hold true also outside the

laboratory – debiasing strategies might generally work better for people who feel strongly about an issue. The implication would be that a high personal relevance constitutes a positive basis for developing considered opinions – a finding which is in line with the predictions of dual-process models of opinion formation (Chaiken and Ledgerwood 2011; Petty and Briñol 2011). This latter finding has to be interpreted with caution though, as due to the small sample size we are not able to conclusively determine the conditional treatment effect. Replication studies are necessary on this point.

As to the second outcome measure, the analysis of argument strength ratings confirms the presence of an attitude congruence effect in argument-strength ratings, a finding in line with previous studies (e.g. Lord, Ross, and Lepper 1979; Charles S. Taber and Milton Lodge 2006). Independence supporters consistently rate pro-independence arguments as stronger than con-arguments, and vice-versa, independence opponents rate con-arguments as stronger. This happens even though subjects were explicitly instructed to abstract from their opinion and rate argument-strength in an objective way, and given the fact that in expert pre-tests pro- and con-arguments were rated as equally strong. The bias is particularly strong for subjects with high political knowledge, and with strong opinions – again in line with previous findings. Here again, in the accountability group subjects rated arguments in a more balanced way. This suggests that accountability had a minor debiasing effect, even though not a statistically significant one, and thus provides some support for hypothesis 2, but not for hypothesis 1.

The fact that debiasing strategies did not have a stronger effect on strength ratings is in line with Taber and Lodge's (2013; 2006) repeated finding that instructions to be

balanced and even-handed in the evaluation of argument-strength are ineffective. On the one hand, this ineffectiveness might be taken as evidence for the pervasiveness of directional reasoning (see Bolsen et al. 2014). However, it might also be attributed to the difficulty of the task: Abstracting from our own opinion while reading arguments, and rating them as strong or weak from an 'objective' or 'neutral' perspective, seems like a very 'unnatural' or 'artificial' requirement – and is thus probably too difficult as an experimental task. Seen from yet another perspective, one could question whether this can be called a 'bias' at all - the result can simply mean that subjects clearly prefer one option (independence or union) over the other and that they therefore believe consistently that the arguments in favour of their preferred option are stronger than the counterarguments – not so surprising after all. I suggest to be cautious with labelling confirmatory argument strength ratings as “prior attitude effects” as some scholars have done (Bolsen, Druckman, and Cook 2014; Druckman, Fein, and Leeper 2012; Charles S. Taber and Milton Lodge 2006). Certainly, a longitudinal study would be better suited to demonstrate that a cognitive bias is at work.

How can we combine the findings that that accountability has a strong effect on integrative complexity of justifications, but a less clear effect on the differential bias in argument strength ratings? One possible explanation is that accountability affects more the 'talk' than the attitude of individuals. When held accountable, subjects (in particular the strong opinion holders) adjust the complexity of their justifications and integrate arguments of the other side, while in reality they have not come to agree more with the other side. This might mean that they try to appear more conciliatory and ready to compromise, while their opinions show they are not.

In sum however, when being held accountable, subjects start to integrate contrasting arguments in their own opinion-formation – in particular when expecting to justify themselves in a group. And exactly this – the consideration of diverse arguments and perspectives, and their integration in the opinion formation process – is a crucial normative requirement in democratic decision-making¹¹.

Conclusion

Motivated reasoning and belief protection are pervasive phenomena in political thinking. Bolsen et al. (2014, 245) have defined directional reasoning as “the default method to forming evaluations in political contexts”. At the same time, the authors emphasize that “it is time scholars move beyond testing moderators and/or documenting the presence of partisan motivated reasoning and work towards a more complete theory of [...] motivated reasoning” (ibid, 252). So far, little is known about the psychological mechanisms underlying the phenomenon of motivated political thinking. And even less is known about the question how to counteract it.

¹¹ In the present study, subjects expected discussion in a group of (mostly) unknown others, which they had met for the first time in the lab. Lerner and Tetlock point out that accountability enhances integrative complexity only when subjects are held accountable to an audience with unknown views, as otherwise conformity effects might occur. Thus we don’t know how the effects of accountability would look under circumstances where subjects’ know each other’s views – a question open for further analysis.

The present study takes a step in this direction by testing strategies to counteract motivated reasoning. Accountability to others – which in turn induces an accuracy motivation – is key in enhancing the complexity of political thinking (see also Leeper and Slothuus 2014; Bolsen et al. 2014). Mere exposure to balanced information is not enough – a balanced information environment must encounter an individual motivated to be accurate. More complex opinions come closer to a central normative requirement of democratic decision-making.

Thus creating a social environment, where subjects have to discuss their views with diverse others will enhance the considerateness of their political opinions – a claim which has been made for a long time by deliberative democrats (e.g. Mutz 2006). The cognitive and motivational underpinnings of this claim have not been analysed yet however. In fact, so-called ‘deliberative mini-publics’ (Fishkin and Luskin 2005; Niemeyer 2011; Smith 2009) entail both debiasing elements tested in the present study: the explicit consideration of opposite arguments, as participants are invited to listen to exponents of different camps, as well as group discussions, where participants themselves have to justify their own positions. Different authors have emphasized the importance of better understanding the psychological components of such deliberative settings (Bächtiger et al. 2010; Goodin and Niemeyer 2003; Mutz 2006). The present findings can contribute something to this question as well.

By offering a definition of what a considered opinion might be and how to measure it, this study also aims at contributing to a normative debate on citizens’ political competence, which has not been led by political psychologists yet. According to Bolsen et al. (2014, 253), there is “a lack of consensus among scholars as to what constitutes a normatively appealing opinion” (see also Druckman 2012). I suggest

that political psychology might link to democratic theory, in particular deliberative democracy theory, in search for answers to the question of normative requirements for citizens' participation. This link has rarely been made yet, and a more detailed exchange between empirical and normative scholars is highly desirable. Finally, conducting a controlled experiment in the context of a real-world political decision, where subjects take part and which affects their life, constitutes an interesting variation of previous experiments, which mostly used political questions taken from the general public debate.

As to the limitations of the present study, first, it looks at only at one single policy decision in a certain context, thus the results remain to be replicated under different circumstances. It would be interesting to see whether the effects are different with less controversial and less polarizing issues. It might be that the selection of a highly contentious issue such as the Scottish referendum has made it more difficult to find debiasing effects and considered opinions, as motivated reasoning is particularly likely with such issues (see Leeper and Slothuus 2014). A second limitation concerns the justification paragraphs written by subjects. It would have been desirable to have more written material for the measurement of integrative complexity, in order to enhance the validity and reliability of the measurement. Time limits and resource constraints did not allow this however. Furthermore, written material can naturally provide only an indirect measure of thought complexity. There is the possibility for example that a subject has very well considered the issue in the past, but decides to write down only a one-sided justification which corresponds to her actual position.

Third, as with every lab experiment using student samples, generalizability is a question. As Druckman and Kam (2011) state, although many social scientists claim

that representative samples produce more valid results, the advantages of representative samples over student samples have not been empirically proved so far. Student samples produce biased estimates only if we cannot assume a homogenous treatment effect for the whole population. In other words, a student sample would be problematic only in case I would expect students to react differently to the debiasing treatments than the rest of the population. This is an empirical question and remains to be tested on different samples. Fourth, as mentioned above, in order to conclusively test whether there is a conditional treatment effect dependent on attitude strength and / or political knowledge, a replication with a larger sample, yielding more statistical power would be desirable. Finally, a closer analysis of the inconclusive findings on the consider-the-opposite treatment would be worthwhile, as some evidence points in the direction of cognitive accessibility – and not only motivation – as a cause for opinion considerateness.

In sum, this study tries to link older findings on debiasing from social psychology to the recent debate on the determinants of motivated reasoning versus considered political opinions in political psychology. The strong evidence for the positive effect of having to justify one's political opinion to others constitutes a starting point for further research on how to enhance considered opinions and citizens' competence.

Appendix

Table A1. Summary statistics additional variables

Variable	N	Range (min/max)	Mean	Std. Dev.	Var.	Skew.	Kurt.
Political Knowledge	179	1 / 17	9.63	3.54	12.51	.08	2.08
Political Interest	179	0 / 4	2.34	1.02	1.03	.13	2.40
Opinion strength	179	0 / 10	6.13	2.4	5.77	-.37	2.56

Table A2. Differences in integrative complexity relative to control group

	Consider the opposite			Accountability		
	z-value	p<	N	z-value	p<	N
All subjects	-1.06	0.15	117	-1.80	0.03	120
High knowledge	-0.82	0.29	61	-1.30	0.09	58
Low knowledge	-0.61	0.28	56	-1.27	0.11	62
Strong opinion	-1.76	0.04	64	-1.84	0.03	59
Weak opinion	0.36	0.37	52	-0.58	0.29	61

Note. The cells represent z-values and p-values from proportion tests of high vs. low integrative complexity of justification across experimental groups and for different subsamples in the rows. Statistically significant differences ($p < 0.1$) in bold letters. The left-hand panel shows the values for the consider-the-opposite group vs. control group and the right-hand panel shows the values for the accountability group vs. control group. The first row shows the values for all subjects, the subsequent rows for subgroups of subjects.

Table A3: Interaction effects of Treatments and Political Knowledge / Opinion Strength

ACCOUNTABILITY TREATMENT				
	Model 1		Model 2	
	Coef. (SE)	p<	Coef. (SE)	p<
Treatment effect	0.925 (0.762)	0.225	0.454 (0.689)	0.509
Political knowledge	0.494 (0.842)	0.558		
Knowledge*Treatment	0.069 (1.024)	0.946		
Opinion strength			-0.758 (0.833)	0.363
Strength*Treatment			0.962 (1.032)	0.351
Constant	-2.974 (0.887)	0.001	-2.196 (0.776)	0.005
N	120		120	

CONSIDER-THE-OPPOSITE TREATMENT				
	Model 1		Model 2	
	Coef. (SE)	p<	Coef. (SE)	p<
Treatment effect	0.530 (0.830)	0.523	-0.215 (0.785)	0.784
Political knowledge	0.486 (0.841)	0.563		
Knowledge*Treatment	0.206 (1.066)	0.847		
Opinion strength			-0.754 (0.834)	0.366
Strength*Treatment			1.663 (1.079)	0.123
Constant	-2.918 (0.879)	0.001	-2.245 (0.799)	0.005
N	117		117	

Note. Logit estimates of binary integrative complexity measure (high = 1 / low =0); Standard errors are in parentheses. Statistically significant differences ($p < 0.1$) in bold letters. Upper panel shows the results for the accountability treatment and lower panel shows the results for the consider the opposite treatment.

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