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PREEMPTING POLARIZATION: AN EXPERIMENT ON OPINION FORMATION

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Dedicated to my loved ones.

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ABSTRACT

Blind adoption of opinions put forward by political parties and influential figures can sometimes be harmful. Focusing on cases where the partisan gap on policy support has not yet arisen, we investigate whether its formation can be prevented by encouraging prior active engagement with non-partisan information. To address this question, we recruited N=851 Republicans for a study about net neutrality, an issue largely unfamiliar to the electorate. In a pre-registered experiment, we randomly changed the order in which the following two types of information were provided: (i) partisan, underscoring Republicans' opposition and Democrats' support, and (ii) non-partisan, where the participants evaluated factual arguments about the pros and cons of the policy. Despite holding total information constant, we found that those who saw the non-partisan block first donated 46% more to a charity advocating for net neutrality ($p=0.001$). We also report that the partisan information altered which arguments Republicans found convincing when viewing the non-partisan block. Lastly, as a robustness check, we provide evidence that the treatment effect on support for the issue persisted in an obfuscated follow-up study, conducted several weeks after the intervention.

CHAPTER 1

INTRODUCTION

Note: This work was co-authored with Mateusz Stalinski. Although it originated with a preliminary experimental design that I developed independently, this work represents a joint, cooperative effort by both authors. Mateusz Stalinski has granted his permission for this article to appear in my dissertation.

Voters often back their party’s stance on an issue without a thorough understanding, opposing “global warming” while supporting “climate change” [Schuldt et al., 2011], or not knowing that the “Affordable Care Act” and “Obamacare” represent the same policy [Dropp and Nyhan, 2017]. With the party position shown as a dominating factor in evaluation of a policy, overwhelming its objective content and one’s ideological beliefs [Cohen, 2003, Druckman et al., 2013], researchers have long sought to understand the set of minimum conditions which can either prevent a partisan gap on policy support from arising or mitigate its impact on people’s decision making. This objective has become even more prominent in light of the latest evidence on welfare implications. For example, in healthcare context, political affiliation and opinion-based conservative media coverage were linked to a lower use of Covid-19 preventive measures and higher fatalities [Gollwitzer et al., 2020, Bursztyn et al., 2022].

The interventions reported in the literature thus far have been largely unsuccessful in addressing polarization on a policy issue [e.g. Joslyn and Demnitz, 2021]. If anything, previous research offers suggestive evidence that the provision of non-partisan information may even backfire – exacerbating polarization [Kahan et al., 2012],¹ a point corroborated especially in

1. Kahan et al. [2012] pointed out that science literacy enhances cultural polarization as a predictor of opinions on climate change.

settings where people already have well-defined views [Long et al., 2022, Baysan, 2021]. The challenge of addressing the partisan gap appears even more difficult given the findings that individuals choose to oppose an issue they previously supported after it becomes politicized [Satherley et al., 2018]. This indicates that party cues are not only powerful in persuading individuals to support or oppose an unfamiliar issue, but they can also easily undo previously formed opinions on a familiar one. Despite the multitude of discouraging evidence, there are still relevant factors which have not been explored. Crucially, previous interventions typically present information about the issue’s content and the party stances simultaneously, or when the political context is well-known. This neglects the impact of *early* non-partisan campaigning, particularly using methods that foster active engagement with information – a policy that an NGO or an issue advocacy group could pursue. We fill in the missing piece by exploring this opportunity.

Focusing on cases where the partisan gap on policy support has not yet arisen, we investigate whether its formation can be prevented by encouraging prior active engagement with non-partisan information.² In this context, we are interested in whether the *order* in which individuals face partisan and non-partisan content matters for opinion formation. We explore the decisions made by individuals who first interact with factual information on an issue, and do not learn about the party stances until after they have formed a well-informed personal opinion. We ask whether upon exposure to partisan cues, they exhibit a desire to conform to their party’s position, or maintain their personal opinion. We compare this scenario to the counterfactual when the individuals first experience partisan information, followed by non-partisan information. Lastly, as a supplementary question, we investigate whether partisan information alters which arguments individuals find convincing when engaging with non-partisan content.

To address the research questions, we recruited Republicans on Prolific to partake in a

2. We primarily concentrate on a method of lessening the effects of partisan divides on issues that might otherwise receive bipartisan support.

survey introducing the concept of net neutrality, a topic remaining largely outside the public discourse and, thus, likely unfamiliar to the US electorate. Participants in the study were provided with both (i) partisan and (ii) non-partisan information about net neutrality. The former consisted of texts and images revealing the history of policy changes related to net neutrality rules in the United States. The materials highlighted Democrat’s support for net neutrality along with Republicans’ opposition. When choosing this content, we attempted to eliminate any facts affecting the evaluation of the policy merits. Unlike the partisan block, the non-partisan information involved factual pros and cons of net neutrality, discussed in videos.³ These materials did not have any references to the party positions. At the end of the non-partisan block, we elicited the side of the argument that the participant preferred – we asked them to provide a short written statement explaining which argument they found convincing. As a central element of our design, we randomized the order in which (i) the partisan block and (ii) the non-partisan blocks were presented. In (Partisan) After condition, the partisan information followed the non-partisan information. In (Partisan) Before condition, the opposite was true. As our main outcome, we measured donations to the Electronic Frontier Foundation (EFF), a charity advocating for net neutrality. At the point of elicitation, the overall informational content was the same for both conditions – only the order differed. Several weeks after the main survey, as a robustness check, we conducted an obfuscated follow-up study to check if the effect of the intervention on support for net neutrality persisted (in comparison to placebo issues).

We proceed to report the main results of the paper. We found that preempting partisan information with non-partisan videos (After group), was successful in increasing donations by 46.9% relative to when the non-partisan information was shown only after the party view was clear (Before group). In particular, in the After group the proportion of the bonus payment

3. An important feature of our design is that both the partisan and the non-partisan blocks are “two-sided”. The former outlines the stance of both Republicans and Democrats, while the latter reports both pros and cons of net neutrality. This structure is intended to minimize experimenter demand effects, as it is difficult to guess what is the researchers’ preferred political party or their stance on net neutrality rules.

donated to the EFF was 21.6%, whereas in the Before group it was equal to 14.7%.⁴ This translates into an average treatment effect of 6.9 pp. ($p=0.001$), or 0.23 s.d. We conclude that preempting partisan gap on an issue, especially one that would otherwise receive bipartisan support, is possible by preceding partisan information with two-sided non-partisan content (covering pros and cons) *and* ensuring active engagement with it in a way that leads to formation of a well-informed personal opinion. This outlines the set of sufficient conditions. We hope that our results will inspire a discussion on whether they are also necessary, or if a similar outcome can be achieved with less.

Additionally, we report that receiving prior partisan information (Before group), in comparison to not receiving it (After group), altered which arguments Republicans found convincing when viewing the non-partisan block. In particular, we found that the proportion of individuals who chose an argument in favor of net neutrality was higher in the After group by 16 pp. ($p<0.001$). This indicates that despite viewing the same substantive information (the partisan block did not contain any objective pros and cons), individuals demonstrated the capacity to fit the arguments to match their party stance. This finding is notable given that the participants not only had to pick a side, but also provide a written explanation in their own words.

We conducted a series of robustness checks to address potential concerns. First, we demonstrate that our results cannot be explained by attrition, as they are robust to applying Lee [2008] bounds. Furthermore, we strive to rule out alternative explanations. To that end, we provide evidence that our order intervention did not change the beliefs about Republican support for net neutrality. More importantly, we address the possibility that our results could have been driven by participants' desire to appear consistent in the eyes of the experimenter. It is natural to worry that once they selected a pro argument after viewing

4. All participants were offered a \$0.50 bonus payment in the donation screen, which they could use to support the EFF. We introduced the EFF as a non-profit organization focused on protecting net neutrality, rated 92.88 on CharityNavigator.org.

non-partisan information, they might choose to donate more just to satisfy experimenters' demand.⁵ Similarly, the subjects might be unwilling to “admit” that they were swayed by the partisan stance alone, which would be apparent through their donation choice. We dispel both criticism by conducting a follow-up study, with an obfuscated purpose, several weeks after the initial experiment (the median person took it after 30 days). We report that the treatment effect on support for net neutrality persisted while we reordered null results for two placebo issues – blockchain voting and carbon capture.

The paper is related to several strands of literature. First, it is important to place our findings in the context of the current trends in the dynamics of political polarization. We differentiate between “affective polarization”, describing animosity towards members of an opposing party, and “ideological polarization”, which refers to an increase in the gap between each party’s positions on political issues and to a lack of diversity of opinion within a party. Our experiment directly addresses the latter. There is a substantial amount of evidence to support the claim that affective polarization is on the rise in the US (Boxell et al. 2020; see Iyengar et al. 2019 for a review). Though smaller, an increase in the divide of ideological positions has accompanied this (Abramowitz and Saunders 2008; Bertrand and Kamenica 2018), which Mason [2015] attributes to partisan-ideological sorting (that is, an increase in partisan identity alignment). Notably, in support of this argument, Rehm and Reilly [2010] describes a rise in homogeneity of opinion within the parties that has grown with the division between Democrat and Republican positions. Though political parties are intended to unite like-minded people with similar values, this could imply that political affiliation itself plays a significant role in shaping opinions. Cohen [2003] provides evidence for this by establishing that the stance on a policy taken by political parties can influence one’s attitude towards it more than both the policy’s content and personal ideological beliefs, with individuals almost

5. It is important to note that a desire to be consistent within self, rather than to appear consistent in the eyes of the experimenter, is one of the channels through which our intervention is intended to operate, and does not constitute an alternative explanation to be ruled out.

exclusively aligning themselves to be consistent with the party they identify with. Similarly, Satherley et al. [2018], who conducted a longitudinal survey on voters' opinions about a flag referendum before and after the issue became politicized, find that a significant proportion of people who initially held a different position on the issue changed to one more compatible with their party leader's vocalized stance.

Previous attempts to bridge this gap on political opinions have yielded mixed results. Joslyn and Demnitz [2021] tests the effects of additional unbiased information on attitudes towards climate change across liberals and conservatives, hypothesizing that people do not understand the gravity of the problem enough, but highlights that most resulting changes are small and insignificant. Other literature finds that sometimes new information can even increase polarization when people already have defined beliefs (Long et al. 2022; Chen 2022; Baysan 2021). Instead of providing unbiased information, Arpan et al. [2018] examines whether framing messages about renewable energy differently to be consistent with the most important moral values of liberals and conservatives can change message evaluations and willingness to pay. However, here, too, the results show that message framing did not affect outcomes significantly, with political orientation remaining the strongest predictor of participants' attitudes about the message and their willingness to pay for related programs. Other framing literature has found it similarly ineffective (Bechtel et al. 2015; Singh and Swanson 2017). Taken altogether, previous work seems to suggest that simply providing people with new information, whether it is intentionally biased or unbiased, or presented in a way tailored to personal values, is not sufficient to change opinions about a political issue on which they already have existing beliefs. Research in this line of work largely focuses on issues like climate change, where Democrat and Republican positions are well-known. However, when polarization has already occurred, research has shown that party endorsements have greater effects (which can be negative; see Aaroe 2012) and substantive information matters less, making it harder to shift opinions in a direction that might be inconsistent with one's

party loyalties (Druckman et al. 2013). In contrast, we are able to find a significant difference in attitudes on net neutrality, a policy which does not have well-known partisan ties, when experimentally varying whether subjects are supplied information about the issue before or after they learn about the stances taken by the political parties. Our results indicate that opinions can be shifted if action is taken before widespread politicization of the issue in question.

To explore the reasons for this difference, it is helpful to observe that our Before condition, in which people are told about partisan stances before being presented arguments from both sides about net neutrality, mimics the situation that other studies looking at already politicized issues most often use. In such cases, party affiliation is a strong predictor of opinions, which points to the existence of partisan motivated reasoning when party lines are well-known (Bolsen et al. 2014). Extensive research has demonstrated that people can rationalize the same information differently given their partisan ties to the issue (Druckman and McGrath 2019; Bisgaard 2019; Schaffner and Roche 2016). On a broader level, this condition also contributes to a wide-ranging body of work exploring how policy opinion formation and reasoning is affected by factors that are not directly related to the objective information provided, such as beliefs about racial statistics (Akesson et al. 2022) or worldview ideology (Lind et al. 2022). The partisan influence is often so strong that efforts to correct misperceptions on factual beliefs can backfire (Nyhan and Reifler 2010) when there is a political context to the beliefs. The case where people are exposed to partisan information only after processing the nonpartisan arguments about net neutrality and choosing the side they found more convincing, though, is very different than situations involving politicized issues, since, without knowledge of the party stances, there is no direction toward which subjects could be motivated to reason. We suggest two potential mechanisms at work in this case: effortful thinking and a desire for consistency.

When processing the non-partisan arguments on net neutrality, participants were required

to write at least 20 words describing their reasoning for their preferred position, ensuring that some level of effortful thinking about the information was needed to move on in the study. This element of our procedure adds to a variety of previous research on the relationship between effort and attitude strength (Barden and Petty 2008; Falk and Zimmermann 2018; Strandberg et al. 2018), which is also connected to work delving into self-persuasion (Babcock et al. 1995; Gneezy et al. 2020; Schwardmann et al. 2022). That is, since subjects have already committed to a position they spent time thinking about, they might persuade themselves into believing with higher confidence that their chosen stance is right, or at least be more attached to the argument they write down.

Another mechanism to consider is the possibility that participants who receive partisan information only after choosing their position on the basis of the non-partisan videos could be influenced by a preference for consistency. Previous research on cognitive dissonance avoidance has found that people tend towards behaving in ways that are consistent with their past behaviors, like, for instance, voters holding more favorable views of a candidate after having voted for them (Mullainathan and Washington 2009; Shachar 2003). Bénabou and Tirole [2011] explains this by proposing a theory wherein individuals have a sense of their identity and beliefs that they would like to act consistently with. In our study, having already decided on an argument that they found more convincing before learning about their party's stance, participants may have been more compelled to stick to their initial opinions in order to maintain the view of themselves that they are remaining consistent with their past choices and beliefs.

Due to the design of our procedure, our paper contributes to work focusing on the effects of the order or timing of information on a variety of related outcomes, including attitude strength [Haugtvedt and Wegener, 1994], political information effectiveness [Bositis et al., 1985], and willingness to donate [Bae, 2021]. Regarding the question of whether "primacy" (participants privileging information received earlier) is more important than "recency" (in-

formation received later having a greater influence), previous results are mixed, with some evidence favoring the recency effect. Conlon et al. [2022] finds that participants provided with two signals about the composition of balls in an urn put more weight on the second signal. In the misinformation literature, Brashier et al. [2021] reports that debunking a false headline works better than prebunking, again indicating greater effectiveness of information received more recently. However, our results are inconsistent with the recency effect, as demonstrated by higher donations in the After group, where the partisan block, expected to discourage donations, was shown second. Last but not least, our work is closely related to two other experimental papers on order and timing of information. First, in Babcock et al. [1995], pairs of subjects are randomly assigned to advocate for either the plaintiff or defendant in a mock case, given information about the case, and asked to negotiate the case and to make incentivized predictions about how a judge ruled the case. Assigning the roles (plaintiff; defendant) *before* providing the facts of the case led to a greater disparity in the predictions of the judge’s ruling, a longer time negotiating the mock case, and a lower settlement rate compared to assigning the roles *after* providing the facts of the case. Similarly, in Gneezy et al. [2020], “sender” participants are asked to recommend one of two lotteries to an uninformed “receiver”. Lottery A has a lower expected value and lower variance than lottery B. In the Control, around 1 in 4 senders recommend lottery A. In the After treatment, when senders are offered \$1 to recommend lottery A after they have read the information on the two lotteries, there is virtually no change from the Control. However, in the Before condition, when senders are told about the \$1 bonus for recommending lottery A prior to receiving information about the lotteries, nearly half of them recommend lottery A. Comparing the two interventions yields the following insight: Like a \$1 bonus, conformity with one’s party’s stance often *is* something individuals might be motivated to reason towards, if informed early enough, allowing subsequent information to be interpreted with this background secondary goal in mind, but usually *not* something whose influence a

participant would knowingly allow to override a well-formed opinion.

The paper is organized as follows. Section 2 introduces the setting and outlines the experiment design. Section 3 provides a discussion of results and addresses potential concerns. Section 4 concludes.

CHAPTER 2

EXPERIMENT DESIGN

2.1 Setting

In this section we introduce the issue of net neutrality, which provides the setting for the experiment, and explain its importance to our study. In a nutshell, net neutrality rules are designed to ensure that Internet Service Providers (ISPs) treat all internet traffic equally, which prevents them from favoring certain content e.g. by creating “fast lanes”. Proponents could argue that the ISPs should not have any impact on what content users access or its quality. At the same time, this lack of control implies that the ISPs cannot charge websites with high demand for bandwidth relatively more. This short summary of net neutrality rules masks the legal complexity of the issue, with the fine details remaining arcane to non-experts.¹

Our decision to conduct the experiment centered on the issue of net neutrality stems from the unique opportunity associated with the way in which it is present in public discourse. First, the question of net neutrality rules is outside the scope of interest for most of the electorate, with infrequent media coverage. Even in 2015, a time with heightened media attention to net neutrality rules, polling data suggests that over 85% of U.S. adults heard little or nothing at all about the issue.² This lack of familiarity increases the likelihood that the experimental intervention dominates any prior information that the participants might have.

1. Formally, the division between those who support and those who oppose net neutrality stems from opposing views on how internet service providers (ISPs) should be regulated – as “common carrier services”, to be governed by Title II of the Communications Act of 1934 and regulated by the Federal Communications Commission (FCC); or as providing “information services”, to be governed by the less stringent regulations under Title I of the Communications Act of 1934 and regulated by the Federal Trade Commission (FTC). Most supporters of net neutrality favor Title II regulation.

2. <https://www.cpc.udel.edu/content-sub-site/Documents/NatAgenda2015-PR-NetNeutrality-12-11-2015.pdf>, accessed: 2022-10-24.

Second, public policy polling of U.S. adults suggests that net neutrality receives bipartisan support among survey participants exposed to information about the problem, both in 2017 (75% of Republicans and 89% of Democrats oppose dropping net neutrality rules)³ and in 2022 (65% of Republicans and 82% of Democrats favor reinstating net neutrality rules)⁴. A recent Morning Consult survey, with less background information, also does not reveal a significant partisan gap among the electorate, with 57% of Democrats, 60% of Independents, and 49% of Republicans backing net neutrality.⁵ At the same time, the issue is highly polarizing among political elites, with Republican and Democratic lawmakers clashing on whether to adopt net neutrality rules. This enabled us to create a set of materials inducing a strong sense of polarization around the issue for the purpose of the study. As a result, the topic of net neutrality offers a perfect framework for studying how to preempt a partisan gap from arising on a policy issue. This is the case because it combines three unique elements: unfamiliarity, the lack of ex-ante partisan gap, and abundance of publicly available materials suggesting strong polarization.

With Democratic lawmakers strongly supporting and Republican legislators strongly opposing net neutrality rules, we were constrained in the way in which we could use partisan materials to induce a sense of polarization. One option was to conduct the experiment with Republicans and use partisan information to demonstrate their party’s opposition to the issue. Additionally, we could have recruited Democrats and induced a sense of own party’s support. We chose to focus on the first alternative for two reasons. First, given the bipartisan support for net neutrality observed in surveys, this option allowed us to induce a stronger perception of issue polarization by focusing on own party’s opposition – otherwise, already high individual support could not move much in the counterfactual situation (that we ex-

3. https://publicconsultation.org/wp-content/uploads/2017/12/Net_Neutrality_Quaire_121217.pdf, accessed: 2022-10-24.

4. https://publicconsultation.org/wp-content/uploads/2022/05/NetNeutrality_Quaire_0322.pdf, accessed: 2022-10-24.

5. <https://morningconsult.com/2022/04/27/net-neutrality-survey/>, accessed: 2022-10-24.

perimentally create) where the issue gets politicized. Secondly, in the context of relevance of the study to various stakeholders, such as NGOs and issue advocacy groups, the question of how to overcome the impact of party’s position on a policy⁶ issue (rather than enhance it) by providing non-partisan information is more pressing. Taken together, these considerations led us to conduct the experiment with Republicans in the context of net neutrality rules.

2.2 Sample

2.2.1 Recruitment

We recruited our sample on Prolific, targeting only individuals who reported affiliation with the Republican party. To do so, we relied on Prolific’s pre-screening data. In particular, we only allowed prospective participants who answered “Republican” to the following question: “In general, what is your political affiliation?”, with the other options being: “Democrat”, “Independent”, “None”, and “Other”. The recruitment window spanned three weeks – the first person enrolled on June, 30, 2022, and the last one on July 19, 2022. This allowed us to meet our sample size target of N=800 despite the limited availability of Republicans on Prolific. In total, 802 individuals completed our main survey, including 602 participants in a study conducted after the pre-registration and 200 in the preceding pilot. In the pre-registration, we highlighted that we will pool the subjects from both studies when testing our hypotheses in order to overcome power limitations caused by Prolific’s scarcity of Republican respondents. As a robustness check, we verified that our main results hold even if we limit the sample to the observations recorded after the pre-registration.

6. Depending on the framing, this could mean going against the party’s support or opposition to a particular proposition. The primary concern is that a party’s political elite might adopt a position that *disagrees* with the NGO’s position, influencing the party-affiliated electorate who might otherwise agree with the NGO’s position.

2.2.2 Sample Size and Covariate Balance

We recorded that 851 people passed the attention check and were assigned a treatment group – After (423 individuals) or Before (428 individuals). We found that 802 individuals (94.2%) completed the survey i.e. answered all of the questions. This includes 393 (92.9%) in the After group and 409 (95.6%) in the Before group. For each specific outcome discussed in the paper, we report the results using the sample of all individuals for whom it is available. In particular, 807 participants chose the side of the argument after watching the non-partisan information, and 805 individuals decided how much to donate to a charity supporting net neutrality. Since the latter is our primary outcome, we consider the 805 participants our main sample. We address the issue of attrition in Section 3.2.1, where we verify that our results are robust to applying Lee [2009] bounds.

Table 2.1 indicates that the main sample is well-balanced. None of the twelve reported covariates reveals a significant difference in means by treatment at 10% significance level. Additionally, Figure A.1 demonstrates that the distributions of three key categorical demographics: religion, income, and education, do not differ by treatment even at a high level of granularity.

2.2.3 Political Characteristics

We restricted recruitment to individuals whose political affiliation is Republican according to Prolific’s pre-screening data. However, to learn more about participants’ political leanings, we conducted our own party affiliation elicitation. We found that 94.5% of individuals in the main sample identified as Republicans – 94.9% of people in the After group and 94.2% in the Before group. Additionally, 3.5% of participants in the Before condition and 4.6% in the After condition considered themselves Independents but closer to the Republican party. Thus, we conclude that our recruitment strategy successfully rendered a Republican sample.

We further detail our sample by discussing its electoral preferences and affective polar-

Table 2.1: Sample Balance

	Before Group			After Group			diff
	n	mean	sd	n	mean	sd	
Trump in 2020	406	0.72	0.45	382	0.72	0.45	0.001
Male	411	0.49	0.50	394	0.51	0.50	0.021
Age	411	42.68	14.30	394	41.21	13.77	-1.471
College	411	0.51	0.50	394	0.52	0.50	0.012
White	411	0.83	0.38	394	0.87	0.34	0.038
Income > 70k	411	0.48	0.50	394	0.53	0.50	0.041
West	411	0.17	0.38	394	0.16	0.36	-0.015
Midwest	411	0.23	0.42	394	0.23	0.42	-0.003
South	411	0.42	0.49	394	0.44	0.50	0.013
Northeast	411	0.17	0.38	394	0.18	0.38	0.005
Household Size	411	3.00	1.39	394	3.01	1.49	0.003
Christian	411	0.49	0.50	394	0.52	0.50	0.034

The table presents balance on covariates collected for all participants who selected a donation level (i.e. the donation outcome is not missing). The measures were elicited in the main study (805 responses), with the exception of Trump vote in 2020 – this variable was based on a Prolific pre-screening question (788 observations). We report the following covariates (in order) by the treatment group: a dummy equal to one if they reported voting for Donald Trump in 2020, a dummy equal to one if a person is male, age, a dummy equal to one if they have at least a 4 year degree, a dummy equal to one if they are White/Caucasian, a dummy equal to one if they have household income exceeding \$70,000, four regional dummies based on the state of residence, household size (1-6), a dummy equal to one if their religion can be classified as Christian. We report significance of the coefficient in the regression of each covariate on a dummy variable equal to one if the participant was assigned After group. * significant at 10%; ** significant at 5%; *** significant at 1%;

ization. We collected relevant measures after eliciting the donation decisions to prevent contaminating the primary outcome. Despite the possibility that the responses could have been affected by the intervention, it is important to consider them, as they shed light on the strength of participants’ partisanship.

First, we found that the average “warmth” towards Republicans detected using a 0-100 feeling thermometer was 70.0 in the After group and 71.9 in the Before group. At the same time, the temperatures associated with the feeling towards Democrats were 29.3 and 30.1 respectively. These indicate a strong ingroup bias in both conditions.

Second, we elicited two electoral measures: support for Republicans for Congress and for Donald Trump in 2024 on a scale from 0-100. We created the former variable by subtracting the congressional support for Democrats, which we obtained in the survey, from 100. We did not directly ask about Republican support for Congress in order to avoid posing all

questions from one party’s perspective. Figure A.2 shows the distribution of both electoral measures, additionally split by whether the participant voted for Trump in 2020. More than 70% of individuals declared full support (100) for Republicans for Congress, with almost no observations where the score was less than 50. The support for Donald Trump was lower, with just under 40% of 100 scores. It is notable that almost 20% of the sample fully disagreed with backing Trump in 2024. This proportion was even higher in the subsample of individuals who reported that they did not vote for Trump in 2020. Crucially, even among that group the median support for Republicans for Congress was 100. To sum up, despite the opposition to Donald Trump exhibited by a non-negligible fraction of the participants, the subjects overwhelmingly back Republicans for Congress.

The statistics reported in this section are important for the interpretation of the paper’s results. We demonstrated that our sample consists of individuals exhibiting nearly universal congressional support for Republicans, significant approval for Donald Trump as a presidential candidate, and a large pro-Republican ingroup bias. Given the strength of the partisan leaning of the participants, one would expect that any prior considerations will be easily undone by revealing the partisan position. In this light, our evidence that it is possible to preempt polarization of an issue by offering early non-partisan information is notable.

2.3 Study Flow

Figure 2.1 summarizes the flow of the study. Participants recruited on Prolific were asked to complete a short Qualtrics survey. The wording of the questions as well as the instructions given to the subjects are provided in Appendix C.

2.3.1 Preliminaries

Following the consent form, we collected basic demographics. We included an attention check among the questions presented in this section. Subsequently, we introduced ourselves as non-

partisan researchers interested in public policy. We continued by offering a concise definition of net neutrality – our issue of interest. Specifically, we highlighted that net neutrality ensures that the internet service providers (ISPs) cannot “block or favor particular content, websites, or applications”. To ensure participants’ engagement with the definition, we asked a comprehension question about its meaning.

2.3.2 *Treatment*

Following the issue introduction, the subjects were shown two types of information blocks: (i) partisan and (ii) non-partisan. The order of the blocks was determined by a randomly assigned treatment condition. Participants in the (Partisan) After group encountered the non-partisan block first, followed by the partisan block. The opposite was true in the (Partisan) Before group. Below, we describe both types of information in detail.

Partisan Block The partisan block is a slide show outlining the history of the net neutrality debate. Its main goal is to communicate to the viewer that Democrats support and Republicans oppose net neutrality rules. To that end, we indicated that Barack Obama introduced net neutrality legislation, while the FCC chairman Ajit Pai, appointed by Donald Trump, overturned it. Furthermore, we relied on tweets and images of politicians with nation-wide recognition to provide evidence of divergence in the party stances on the issue. In an effort to induce the feeling of substantial issue polarization, the block contains images intended to result in a strong emotional reaction. In addition to associating the debate with some of the most polarizing figures such as Donald Trump, Barack Obama, Nancy Pelosi, and Ted Cruz, we provided images of protesters meant to evoke the caricatured image of Democrats portrayed in conservative media, in order to further trigger a sense of partisan conflict. In designing the partisan block, we strove to minimize the presence of any factual information that could constitute meaningful arguments in favor of or against net neutrality.

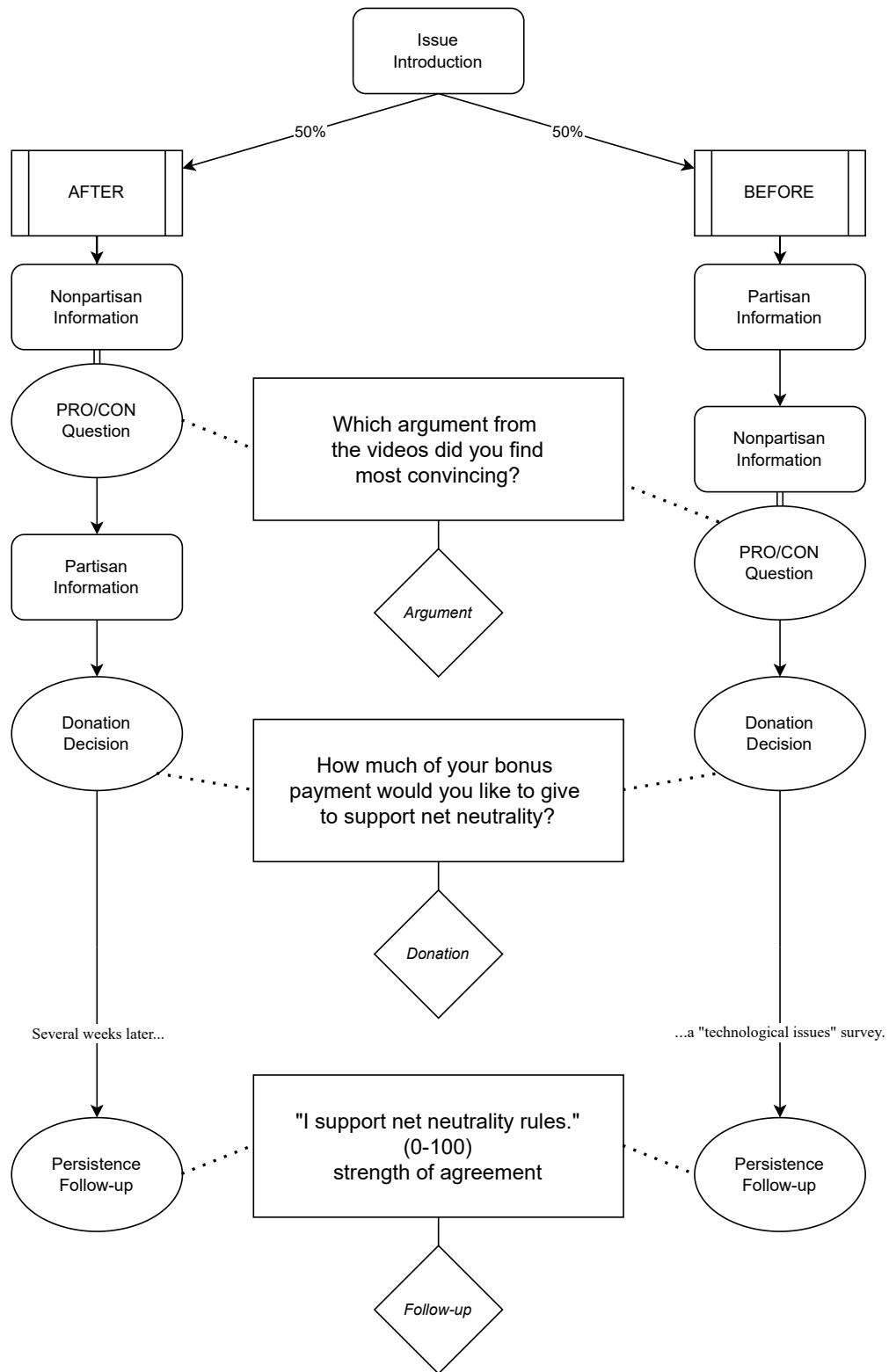


Figure 2.1: The Study Flow

Non-Partisan Block The non-partisan block consists of videos discussing pros⁷ and cons⁸ of net neutrality, focusing on evidence-based arguments. To encourage attention, we made it not possible to fast forward the videos, or continue with the survey unless they were played in full. When editing the video materials, we removed any indication of their sources (credits were given at the end of the survey) to ensure that we did not contaminate the arguments with hints of partisanship. After the participants completed the videos, we asked them which video was more convincing (pro or con). We requested that the subjects explain in their own words an argument or a reason from the videos that convinced them. Every participant had to write at least 20 words of explanation in a text box to proceed further. This exercise is a critical component of our intervention – it ensures that the participants *actively* engage with information provided and consider the merits of the policy.

An important feature of our design is that both information blocks were two-sided. The partisan block focused on both Republicans and Democrats, whose opinions on the net neutrality rules differed. Similarly, the non-partisan block contained videos arguing both pros and cons of net neutrality. This way, it was unclear to the participants which side of the argument or which political party the researchers are likely to support. We hope that these efforts minimized the impact of experimenter demand effects on our results.

7. When viewing the discussion of the pros, the participants learned that without net neutrality, internet traffic is not treated equally. In particular, ISPs may charge companies for access to faster lanes, a move which could benefit large corporations, who can afford to pay. In the extreme, the ISPs could even deny a website access entirely. Furthermore, some services could slow down if their providers do not upgrade their plan with the ISP. This is exemplified by a case study of Netflix being slowed down by Comcast. The punchline is that the costs of purchasing higher speed could be passed to consumers, and thus users may end up paying more for their favorite services.

8. The discussion of cons opens with a statement that under net neutrality, ISPs would charge everyone equally regardless of how much data they send through the Internet. The viewers are reminded that smooth operation of the Internet is dependent on physical infrastructure that has limited capacity. A case study of Google and Netflix shows that the two providers occupy more than half of available bandwidth. This led to the idea that ISPs should create fast lanes – you use more, you pay more – the punchline of the video. Lastly, the discussion links the fast lanes to innovation, pointing out that paying a higher price for more usage would prompt the companies to invest in more efficient transmission technologies, benefiting everyone.

2.3.3 Outcomes

We pre-registered two outcome variables. First, the main outcome of the study is the proportion of the bonus payment donated to the Electronic Frontier Foundation (EFF), a charity advocating for net neutrality. We emphasized to the participants that the donation is their chance to back net neutrality, which enhances the interpretation of the outcome as an incentivized measure of support for the issue. The donation decisions were collected after the participants in the two treatment groups experienced both the partisan and the non-partisan block, albeit in a randomly assigned order. This means that the information that they received throughout the study was held constant at the point of elicitation.

Additionally, as a secondary outcome, we measured the proportion of participants who chose a pro argument after watching the non-partisan videos. Specifically, after the block was completed, we told the participants that “on the previous page, [they] explained which argument from the videos about net neutrality [they] found the most convincing”. Subsequently, we asked whether it was an argument in favor or against.

Controls Following the pre-registration, in the text of the paper we focus on reporting our results on the basis of regressions without any controls. However, as a robustness check, we discuss specifications where we control for the following covariates: age, household size, as well as dummy variables equal to one if someone: (i) is male, (ii) earned at least a bachelor degree, (iii) has gross household income exceeding \$70,000, (iv) is Christian, (v) is White or European American. For regressions with controls reporting outcomes from the follow-up survey, we also include the number of days elapsed between the two surveys.

2.3.4 Additional Components

After eliciting the outcome variables, we asked the participants additional questions important for robustness analysis and further illuminating our sample. First, we elicited beliefs

about support for net neutrality rules among Republicans and Democrats. Second, we asked the participants about their electoral preferences: (i) whether they intend to vote in 2022 midterm election, (ii) whether they support Democratic Party for Congress, and (iii) whether they would vote for Donald Trump in 2024 if he runs for president. Lastly, we collected measures of affective polarization via a feeling thermometer – the participants provided their feelings towards both Democrats and Republicans on a scale from 0 to 100.

2.3.5 Follow-Up Survey

Lastly, a few weeks after the initial survey, we recruited participants from our original sample for a follow-up study, with an obfuscated purpose. The study focused on three technology issues – blockchain voting, carbon capture, and net neutrality, and involved elicitation of support for these policies. The purpose of the follow-up was to test whether the treatment effect persists over time, which serves as a robustness check, helpful in refuting some of the alternative explanations of our results. Details are provided in Section 3.2.3.

CHAPTER 3

DISCUSSION OF RESULTS

3.1 Main Results

Figure 3.1 provides a summary of our results. In Panel A, we report that learning the party position reduced the subsequent effectiveness of non-partisan information in inducing support for net neutrality. In the After condition, where the decision was based solely on the non-partisan videos, the proportion of individuals in favor of net neutrality was higher than in the Before condition by 16 pp. Participants in the Before group previously viewed a slide show which hinted that Republicans oppose and Democrats support net neutrality.

Panel B demonstrates the result for our primary outcome. Holding total information received at that point in the survey constant, the order of partisan and non-partisan blocks had a significant effect on support for net neutrality, measured through a donation to a charity advocating for it. Preempting partisan information with non-partisan videos (After group), was successful in increasing donations by 46.9% relative to when the non-partisan information was shown only after the party view was clear (Before group). We explore both results in turn in the subsequent sections. Potential concerns are addressed in Section 3.2.

3.1.1 Side of the Argument (Intermediate Outcome)

In the After group, for which the videos were the first relevant information, the proportion of participants in favor was 58.1%. The share was equal to 42.1% in the Before group, where the subjects previously learned about Republicans' opposition to net neutrality (and Democrats' support for it) from a slide show about the history of the net neutrality debate. The treatment effect size of 16 pp. ($p < 0.001$), or 0.32 s.d., indicates a strong impact of partisan information on the evaluation of the non-partisan materials about net neutrality, and the support for the policy itself. Overall, one could expect that Republicans' trust in the judgement of their

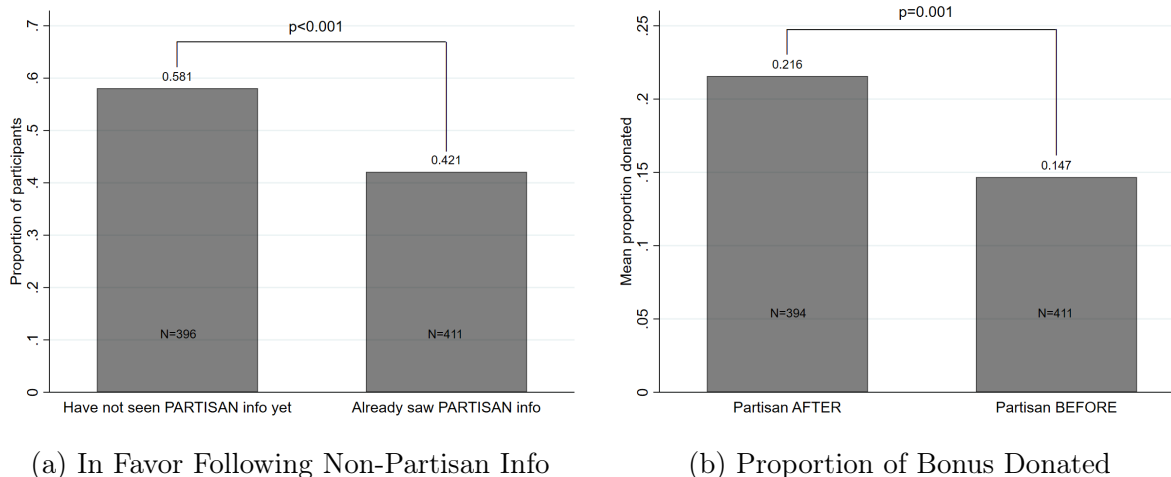


Figure 3.1: Summary of Main Results

Panel A depicts the proportion of participants who reported making an argument in favor of net neutrality upon watching the videos in the non-partisan block, by treatment condition. Panel B shows the average proportion of bonus payment donated to the Electronic Frontier Foundation, a charity advocating for net neutrality, by treatment group.

party could have led to them interpreting the non-partisan information differently, relative to the counterfactual situation (that the After group experienced) of seeing the non-partisan information without knowing the parties' stances on the issue. While this could explain the direction of the result, its magnitude is notable given that the participants had to provide an argument rather than just declare a side. It shows people's ability to fit an argument to a position ex-ante influenced by the party stance. Ultimately, participants in both groups had access to the same reasons and examples (the partisan block did not have any), relating to both sides of the net neutrality debate (pros vs. cons), and managed to find *different arguments* persuasive to a remarkable degree.

Table B.1 reports the regression analysis associated with the side of the argument chosen by the participants. The treatment effect is robust to including controls (15.6 pp.), restricting the sample to those who passed all comprehension checks (16.1 pp.), and removing pilot experiment observations (16.3 pp.). Columns 5 and 6 provide insights into the effect's strength by whether individuals voted for Donald Trump in 2020, a pre-registered angle of

heterogeneity. We found that the vote for Trump was associated with a 14 pp. increase in the treatment effect (being in the After group). This is consistent with the interpretation that moderate voters, who are less likely to back Trump, are less influenced by the party stance. However, there are other factors to consider – the heterogeneity might be explained by the vote’s correlation with other variables, such as the level of education. We hope that our preliminary finding will encourage causal moderation efforts to better understand the strength of the party position on persuasiveness of non-partisan information.

3.1.2 *Donation (Primary Outcome)*

We found that, in the After group, where the partisan information was provided second, the proportion of the bonus payment donated to the EFF was 21.6%. In the Before group, where the partisan block was displayed first, the donated share of the bonus equalled 14.7%. Preceding partisan information with a two-sided (covering both pros and cons) non-partisan information resulted in the average treatment effect of 6.9 pp. ($p=0.001$), or 0.23 s.d. This is equivalent to a 46.9% increase in the proportion of the bonus given to the EFF. This indicates that it is possible to preempt ideological polarization of an issue by non-partisan campaigning, even when both sides of the debate are discussed. Later in this section, we discuss the components of our intervention which played a role in enabling this outcome. Given our usage of materials inducing a strong sense of partisan conflict, it is surprising that the partisan information in the After group did not undo prior opinion formation associated with analyzing non-partisan information. On the contrary, we report that the side chosen after watching the non-partisan videos persisted.

We acknowledge that our results are consistent with several mechanisms which can explain why the intervention achieved its objective. One prominent explanation is the desire for consistency within self. Once the participant associated themselves with a side of the debate – following non-partisan information – that choice resisted subsequently incoming

information, even as influential as the partisan block. However, it is possible that consistency plays a minimal role. It could be the case that the partisan information affects the way in which the non-partisan information is processed. For example, Republicans may pay less attention to content arguing for the side inconsistent with the party position. This way, despite holding information constant at the point of eliciting the donation outcome, factual information in Before group was “less persuasive” than in the After group.

Table B.2 offers additional regression specifications pertaining to the primary outcome – the proportion of the bonus payment donated to the EFF. Column 2 demonstrates that the effect is robust to including controls (7.4 pp.). Furthermore, Column 3 indicates robustness to restricting the sample to individuals who passed all comprehension checks (8.8 pp.). Column 4 shows that the treatment effect (5 pp.) remains significant at the 5% level even when the observations from the pilot study are excluded (with N=605). Column 5 illuminates the heterogeneity of the treatment effect with respect to whether an individual voted for Donald Trump in 2020. The point estimate indicates a weaker effect for the Trump voters, but the difference is not statistically significant. The sign is in line with the expectations that more moderate voters are less susceptible to the “party effect”, which could reverse the choice that they made after watching the videos. As we highlighted in the earlier analysis, there are other ways to interpret this type of correlation, with causal moderation analysis needed for a better understanding. Lastly, Column 6 demonstrates that the effect remains significant for the subsample of participants who reported voting for Trump in 2020.

Finally, as a part of exploratory analysis, we consider the extensive margin when investigating the effects of the intervention on donations. Table B.3 indicates that viewing the non-partisan information first (After group) increased the share of positive donations by 6.4 pp., in comparison to the Before group where the non-partisan information came second. We also found that the share of substantial donations (greater than 10% of the bonus payment) rose by 8.7 pp. The latter measure may be more accurate, given that we used a slider to elicit

the donation amounts. In order to proceed with the survey, the participants who wished to donate zero had to at least click at the thumb positioned at zero. For some individuals, it might have been easier to simply move it to a very low amount. We treat the above results as complementary to our main findings, which focus on the intensive margin (as pre-registered).

3.2 Robustness Checks

3.2.1 *Lee Bounds*

In Section 2.2, we considered the issue of attrition. The overall completion rate was high (94.2%) and differed by treatment group by 2.7 pp, with 92.9% finishing in the After condition and 95.6% in the Before condition. To dispel that our results could have been affected by attrition during the study, we applied Lee [2009] bounds to our treatment effects. Table B.4 indicates that the lower bound of the effect (the worst case scenario) remains significant at 1% level for both main outcomes: (i) the side of the argument chosen after watching the videos, and (ii) the proportion of the bonus donated to the EFF. Additionally, Column 4 demonstrates that even when excluding all pilot observations and applying Lee bounds, the 95% confidence interval for the treatment effect does not contain zero. We conclude that our main results cannot be explained away by attrition.

3.2.2 *Beliefs*

Another concern to consider is an alternative explanation where the order of the partisan and non-partisan blocks differentially affected beliefs about Republicans' and Democrats' support for net neutrality. We provide evidence that immediately after collecting the donation outcome (after everyone received both types of information), the beliefs about own party's support did not vary by treatment group. In particular, Table B.5 indicates that in the After group the estimated proportion of Republicans in favor of the policy was lower

than in the Before group by just 0.5 pp. ($p=0.756$). On the other hand, we found some evidence that the order of information affected the beliefs about Democrats' support. In the After group, the estimated fraction of Democrats backing net neutrality was higher by 3 pp. This result is significant at 10% level, though it is not robust to including controls. Importantly, this evidence cannot explain our main effect – donations were higher in the After group where the belief about Democrats' support was greater. It is unlikely that holding own party's support constant, the perception that an issue is more favored by Democrats could have played a role in encouraging donations among Republicans. Lastly, it is insightful to compare constants for the regressions for beliefs about Republicans' and Democrats' support. Ex-post, the participants considered the issue as strongly partisan and polarizing – the average estimated support among Republicans was equal to 34%, with the same statistic equal to 73% for Democrats.

3.2.3 Follow-Up Survey

When interpreting the result, it is natural to consider the following important concern. The effect could have been driven by the experimenter demand for consistency. While consistency within self is one of the key channels through which the intervention is intended to operate, we cannot immediately distinguish it from participants' desire to appear consistent in the eyes of the experimenter. A related issue is their potential unwillingness to admit that they were swayed by the party position, which they could have considered apparent to the experimenter should they fail to donate following the previous choice of a pro side.

To dispel these concerns, we conducted an obfuscated follow-up study eliciting support for three policies related to technology – net neutrality, blockchain voting, and carbon capture – presented in random order.¹ To that end we used a different type of outcome variable, a 0-100 support scale, rather than donations, to further dissociate ourselves from the original

1. The survey questions are provided in Appendix C.

survey. Despite the fact that the median person took the follow-up survey 30 days after the original study, we found evidence that the treatment effect persists, with the support for net neutrality higher in the After group. We report null effects on the support for the two placebo policies.

Table B.7 summarizes the regression results. In particular, we found that the average support for net neutrality in the Before group was equal to 66 out of 100. The score was higher in the After group by 4 points ($p=0.085$), which indicates that a significant part of the original treatment effect persisted. The result is robust to including controls ($p=0.05$). We recorded no significant effects of the After treatment on support for blockchain voting (-1.2 points, $p=0.577$) and carbon capture (-2.8 points, $p=0.201$).

The the take-up rate of the follow-up survey – among those who have a donation outcome – was equal to 85.5% (83.2% in the After group and 87.8% in the Before group). Importantly, Table B.6 indicates that the follow-up sample is well-balanced, with no significant differences for any of the covariates. Furthermore, we used the following procedure to explore best predictions for the outcome – agreement with net neutrality – for people with missing data. Column 7 of Table B.7 shows the result of a regression in which we use the proportion donated and the side of the argument chosen after watching the videos, together with controls, to estimate the support for net neutrality in the follow-up survey. Subsequently, we fill in the missing outcome data based on the coefficients from the regression. Finally, Column 3 of the table depicts the effect of the After treatment on support for net neutrality with the missing data filled in. The regression indicates that the agreement with net net neutrality in the After group would be 4.2 pp. higher than in the Before group ($p=0.035$). This strengthens the previous conclusion by showing that the result is unlikely to be an artifact of people more susceptible to the treatment effect differentially taking up the follow-up survey. Lastly, Table B.8 indicates that the beliefs about partisan support for the three issues (net neutrality, blockchain voting, and carbon capture), elicited after we collected individual agreement with

the policies, did not vary by the treatment group.

To sum up, the results of the follow-up survey feature as a robustness check to verify that the main effect of the intervention on donations cannot be explained away by the experimenter demand effects or people's willingness to appear unaffected by the party stance. Having said that, we believe that our follow-up results may serve as an interesting example useful for the nascent literature exploring persistence of persuasion interventions.

CHAPTER 4

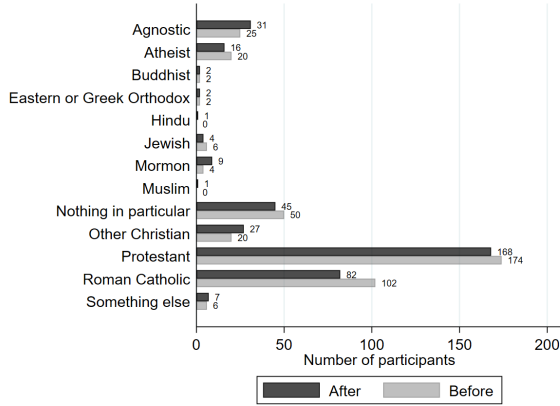
CONCLUSION

We design an experiment to measure the extent to which providing nonpartisan information and encouraging individuals to form their own opinion before being exposed to partisan information can decrease the polarizing effect that political parties have on individual opinion formation. We find that changing the order in which partisan information, underscoring own party opposition and opposing party support, and non-partisan information, where the participants evaluated factual arguments about the pros and cons of the policy, significantly affects an incentivized measure of support for the issue. In particular, we report that those who saw the non-partisan block first donated 46% more to a charity advocating for net neutrality – our chosen issue. This demonstrates that formation of a partisan gap, when it has not yet arisen, can be preempted by encouraging prior active engagement with non-partisan information.

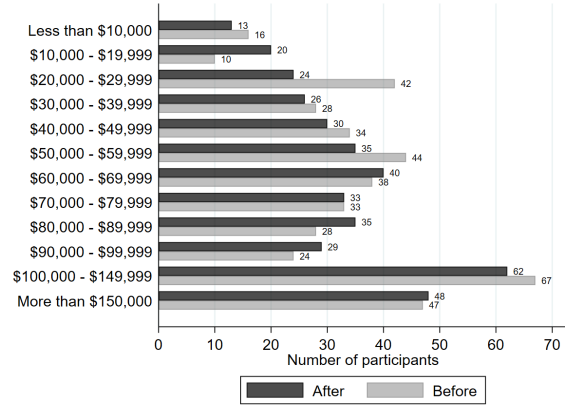
Important caveats apply. Our intervention involved several characteristics that we have shown as sufficient for preempting a partisan gap: early provision of non-partisan information, offering both arguments and counterarguments, and active engagement with provided content in a way that leads to formation of a well-informed personal opinion. We hope that future studies will focus on identifying a subset of these conditions which are necessary to achieve the intervention’s objective. This will further inform real-world applications, such as optimal campaigning strategies by NGOs and issue advocacy groups.

APPENDIX A

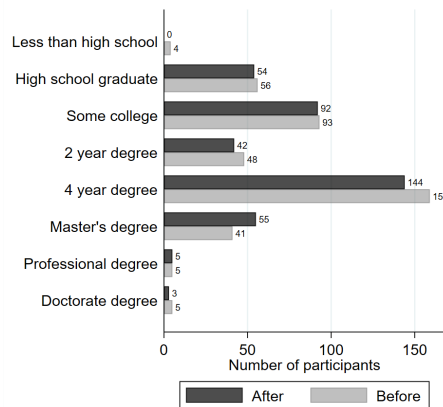
FIGURES



(a) Religion



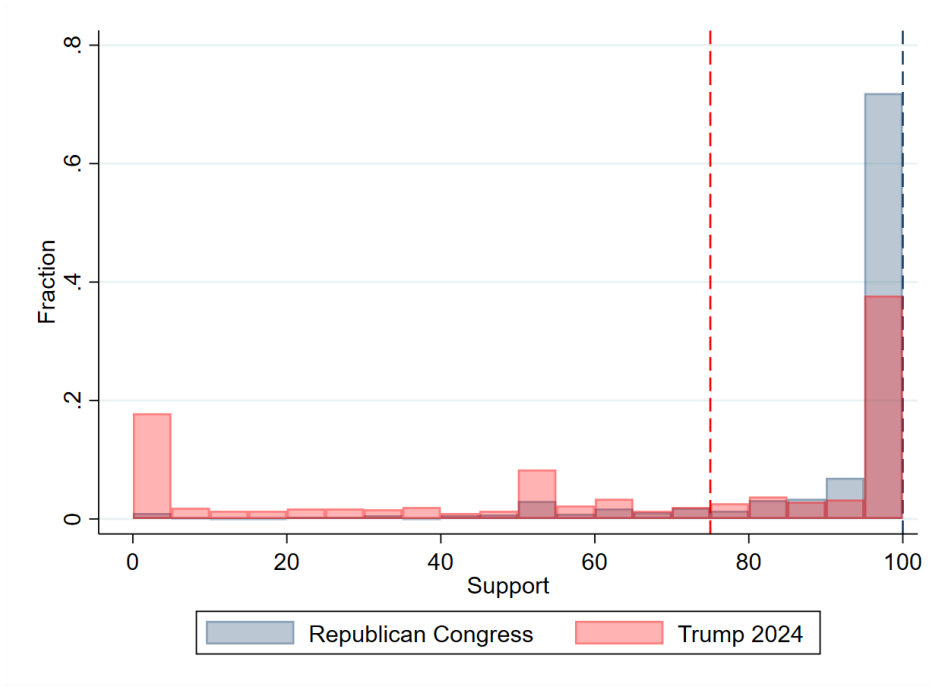
(b) Income



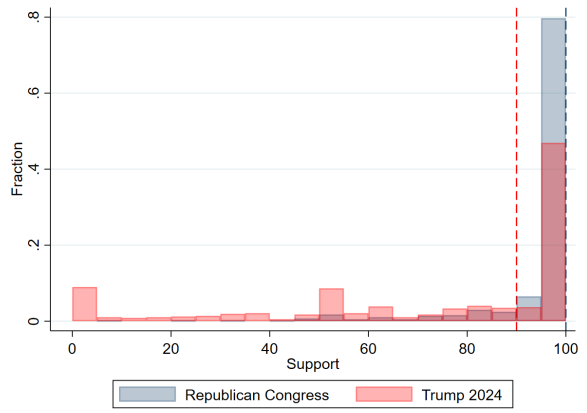
(c) Education

Figure A.1: Distributions of Categorical Demographics

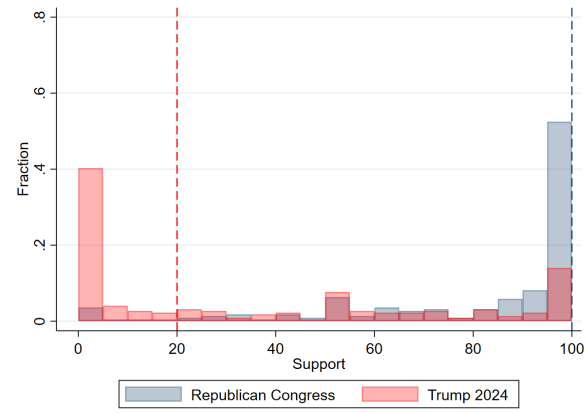
The figure depicts the distribution of three categorical demographics (collected in the main study) by treatment group for all participants who selected a donation level (i.e. the donation outcome is not missing). Panel A shows the distribution of religion, Panel B the distribution of household income in 2021, and Panel C depicts the distribution of the highest educational qualification.



(a) All Participants



(b) Voted for Trump in 2020



(c) Did Not Vote for Trump in 2020

Figure A.2: Support for Donald Trump in 2024 and Republicans for Congress
 The histograms depicts the distribution of support for (i) Donald Trump in 2024 Presidential election and (ii) Republicans for Congress. The medians are indicated with the dashed vertical lines. Panel A relies on the unrestricted sample – it included everyone for whom the outcomes are available. Panel B focuses on the subsample of participants who reported voting for Trump in 2020 (Prolific pre-screening). Panel C is based on the subsample of participants whose report indicates that they did not vote for Trump in 2020 (Prolific pre-screening). The survey directly elicited support for Democrats for Congress on a scale from 0 to 100. In order to create a measure of support for Republicans for Congress we subtracted the Democrat support from 100.

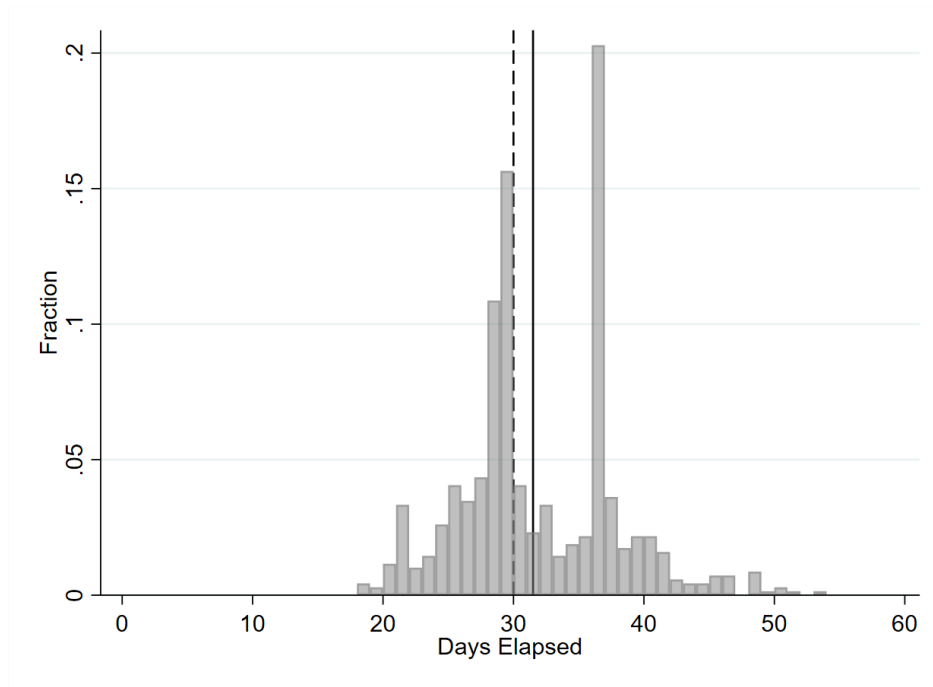


Figure A.3: Days Elapsed Between Follow-Up Survey and Main Survey
 The histogram depicts the distribution of the number of days elapsed between a participant took the main survey and the follow-up survey. The median is signified with the dashed vertical line, whereas the mean is indicated by the solid vertical line. The bin width is equal to 1 day.

APPENDIX B

TABLES

Table B.1: Side of the Argument (Intermediate Outcome)

	(1)	(2)	(3)	(4)	(5)	(6)
	Argument in Favor of Net Neutrality					
Partisan After	0.160*** (0.035)	0.157*** (0.035)	0.161*** (0.041)	0.163*** (0.040)	0.055 (0.066)	0.195*** (0.041)
Trump in 2020					-0.195*** (0.054)	
Trump in 2020 \times Partisan After					0.140* (0.078)	
Constant	0.421*** (0.024)		0.444*** (0.030)	0.415*** (0.028)	0.561*** (0.047)	0.366*** (0.028)
Observations	807	807	572	607	789	568
Sample	All	All	Comp.	No Pilot	All	Trump20
Controls	No	Yes	No	No	No	No
t-stat (Partisan After)	4.595	4.487	3.887	4.065	0.836	4.743

Column 1 demonstrates a regression of a dummy equal to one if the participant reported making an argument in favor of net neutrality after watching the videos on a dummy equal to one if they were assigned Partisan After treatment. Unlike the Before group, participants in the After group did not see partisan information prior to watching the videos. Column 2 presents the same specification with controls (listed in Section 2.3.3). Column 3 shows the regression when the sample is restricted to those who passed all comprehension questions, whereas Column 4 pertains to the specification with all pilot study observations excluded from the sample. Lastly, Column 5 contains a regression of the same dependent variable on the Partisan After dummy, a dummy equal to one if the participant reported voting for Donald Trump in 2020, and their interaction. Column 6 shows the specification from Column 1 but with the sample restricted to those who reported voting for Donald Trump in 2020. Robust standard errors are reported in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%;

Table B.2: Proportion of Bonus Donated to an NGO Supporting Net Neutrality

	(1)	(2)	(3)	(4)	(5)	(6)
	Proportion of the Bonus Donated					
Partisan After	0.069*** (0.022)	0.074*** (0.022)	0.088*** (0.025)	0.050** (0.026)	0.091** (0.046)	0.053** (0.024)
Trump in 2020					-0.096*** (0.033)	
Trump in 2020 \times Partisan After					-0.038 (0.052)	
Constant	0.147*** (0.014)		0.125*** (0.015)	0.171*** (0.017)	0.218*** (0.029)	0.121*** (0.015)
Observations	805	805	572	605	788	567
Sample	All	All	Comp.	No Pilot	All	Trump20
Controls	No	Yes	No	No	No	No
t-stat (Partisan After)	3.197	3.419	3.538	1.971	1.986	2.217

Column 1 demonstrates a regression of the proportion of the bonus payment donated to the EFF on a dummy equal to one if they were assigned Partisan After treatment. Participants in the Partisan After group, first saw non-partisan information followed by the partisan block. The order was reversed for those in the Partisan Before group. Column 2 presents the same specification with controls (listed in

Section 2.3.3). Column 3 shows the regression when the sample is restricted to those who passed all comprehension questions, whereas Column 4 pertains to the specification with all pilot study observations excluded from the sample. Lastly, Column 5 contains a regression of the same dependent variable on the Partisan After dummy, a dummy equal to one if the participant reported voting for Donald Trump in 2020, and their interaction. Column 6 shows the specification from Column 1 but with the sample restricted to those who reported voting for Donald Trump in 2020. Robust standard errors are reported in parentheses.

* significant at 10%; ** significant at 5%; *** significant at 1%;

Table B.3: Donations to the EFF: Extensive Margin

	(1)	(2)	(3)	(4)
	Positive Donation		Donation > 10%	
Partisan After	0.064* (0.034)	0.071** (0.034)	0.087*** (0.032)	0.097*** (0.032)
Constant	0.355*** (0.024)		0.260*** (0.022)	
Observations	805	805	805	805
Sample	All	All	All	All
Controls	No	Yes	No	Yes
t-stat (Partisan After)	1.852	2.092	2.701	3.007

Column 1 demonstrates a regression of a dummy variable equal to one if an individual donated a positive amount to the EFF on a dummy equal to one if they were assigned Partisan After treatment. Participants in the Partisan After group, first saw non-partisan information followed by the partisan block. The order was reversed for those in the Partisan Before group. Column 2 shows the same specification but with controls (listed in Section 2.3.3). Column 3 depicts a regression of a dummy variable equal to one if an individual donated more than 10% of the bonus payment to the EFF on a dummy equal to one if they were assigned Partisan After treatment. Column 4 shows the same specification with controls. Robust standard errors are reported in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%;

Table B.4: Lee Bounds for Treatment Effect

	(1)	(2)	(3)	(4)
	Argument in Favor of Net Neutrality		Proportion of the Bonus Donated	
Lower	0.149*** (0.036)	0.155*** (0.041)	0.064*** (0.022)	0.046* (0.026)
Upper	0.175*** (0.036)	0.175*** (0.042)	0.095*** (0.026)	0.073** (0.029)
Observations	851	631	851	631
CI Effect	[.0872 .2377]	[.0819 .2485]	[.0278 .139]	[.0018 .1223]
Sample	All	No Pilot	All	No Pilot

This table provides results of applying Lee [2009] bounds to the main regression specifications. For each column, we provide the lower bound (worst-case scenario) and the upper bound (best-case scenario).

Furthermore, we report the 95% confidence interval for the treatment effect. Column 1 concerns a regression of a dummy equal to one if the participant reported making an argument in favor of net neutrality after watching the videos on a dummy equal to one if they were assigned Partisan After treatment. Column 2 demonstrates the same specification, but excluding observations from the pilot study.

Column 3 pertains to a regression of the proportion of the bonus payment donated to the EFF on a dummy equal to one if they were assigned Partisan After treatment. Column 4 shows the same specification, but excluding observations from the pilot study. Standard errors are reported in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%; Additionally, we provide the 95% confidence interval for the treatment effect.

Table B.5: Ex-Post Beliefs about Party Support for Net Neutrality

	(1)	(2)	(3)	(4)
	Beliefs Republican Support		Beliefs Democrat Support	
Partisan After	-0.497 (1.598)	-0.300 (1.604)	2.954* (1.542)	2.457 (1.527)
Constant	33.942*** (1.156)		72.572*** (1.162)	
Observations	805	805	805	805
Sample	All	All	All	All
Controls	No	Yes	No	Yes

Column 1 shows a regression of participant's belief about the proportion of Republicans who support net neutrality on a dummy equal to one if they were assigned Partisan After treatment. The beliefs were estimated immediately after the donation outcome. Column 2 depicts the same specification with controls. Column 3 demonstrates a regression of participant's belief about the proportion of Democrats who support net neutrality on a dummy equal to one if they were assigned Partisan After treatment. Column 4 presents the same specification with controls. Robust standard errors are reported in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%;

Table B.6: Sample Balance (Follow-Up Study)

	Control			Treatment			diff
	n	mean	sd	n	mean	sd	
Trump in 2020	358	0.72	0.45	323	0.74	0.44	0.016
Male	361	0.49	0.50	328	0.52	0.50	0.031
Age	361	43.55	14.04	328	42.36	13.47	-1.195
College	361	0.52	0.50	328	0.52	0.50	-0.002
White	361	0.83	0.38	328	0.86	0.35	0.032
Income > 70k	361	0.48	0.50	328	0.53	0.50	0.052
West	361	0.17	0.37	328	0.16	0.37	-0.002
Midwest	361	0.23	0.42	328	0.21	0.41	-0.025
South	361	0.43	0.50	328	0.44	0.50	0.015
Northeast	361	0.17	0.38	328	0.19	0.39	0.011
Household Size	361	2.97	1.37	328	3.06	1.52	0.092
Christian	361	0.49	0.50	328	0.52	0.50	0.037

The table presents balance on covariates for all participants who indicated their support for net neutrality in the follow-up study. The covariates are identical to the ones defined in Table 2.1. We report significance of the coefficient in the regression of each covariate on a dummy variable equal to one if the participant was assigned After group. * significant at 10%; ** significant at 5%; *** significant at 1%;

Table B.7: Support for The Three Policies (Follow-Up Study)

	(1) Net Neutr.	(2) Net Neutr.	(3) Net Neutr.	(4) Blockchain	(5) Carbon	(6) Net Neutr.	(7) Net Neutr.
Partisan After	3.993* (2.315)	4.602** (2.340)	4.230** (2.008)	-1.264 (2.267)	-2.837 (2.217)		
Prop. Donated						23.151*** (3.088)	12.652*** (3.260)
Argument in Favor							20.187*** (2.271)
Constant	66.263*** (1.654)		66.222*** (1.468)	67.986*** (1.599)	62.288*** (1.510)	64.096*** (1.382)	
Observations	689	689	805	689	689	689	689
Sample	Follow-up	Follow-up	Extrap.	Follow-up	Follow-up	Follow-up	Follow-up
Controls	No	Yes	No	No	No	No	Yes

Column 1 demonstrates a regression of the support for net neutrality (from 0 to 100) in the follow-up study on a dummy equal to one if they were assigned Partisan After treatment. Column 2 presents the same specification with controls (listed in Section 2.3.3). Column 3 demonstrates a regression identical to Column 1 but with missing outcome data filled in with the best prediction based on the regression coefficients from the specification reported in Column 7. Column 4 corresponds to the same regression specification as Column 1, but for blockchain voting. Column 5 pertains to the issue of carbon capture. Column 6 shows a regression of the support for net neutrality in the follow-up study on the proportion donated to the EFF in the original survey. The specification in Column 7 additionally includes a dummy equal to one if the participant reported making an argument in favor of net neutrality after watching the videos. Robust standard errors are reported in parentheses.

* significant at 10%; ** significant at 5%; *** significant at 1%;

Table B.8: Beliefs about Party Support for The Three Policies (Follow-Up Study)

	(1)	(2)	(3)	(4)	(5)	(6)
	Net Neutr. Rep.	Net Neutr. Dem.	Block. Rep.	Block. Dem.	Carbon Rep.	Carbon Dem.
isAfter	2.566 (1.960)	-1.037 (1.846)	1.812 (2.199)	-2.162 (2.041)	-1.102 (1.935)	1.035 (1.783)
Constant	49.972*** (1.349)	67.474*** (1.271)	55.778*** (1.514)	49.429*** (1.404)	47.105*** (1.333)	70.551*** (1.228)
Observations	686	686	686	686	687	687
Sample	Follow-up	Follow-up	Follow-up	Follow-up	Follow-up	Follow-up
Controls	No	No	No	No	No	No

Column 1 shows a regression of participant's belief about the proportion of Republicans who support net neutrality in the follow-up survey on a dummy equal to one if they were assigned Partisan After treatment. Column 2 shows the same regression for the beliefs about the proportion of Democrats supporting net neutrality. Columns 3-4 repeat the specifications from Columns 1-2 but for the issue of blockchain voting. Lastly, Columns 5-6 do the same for the policy of carbon capture.

Robust standard errors are reported in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%;

APPENDIX C

SURVEYS

In this appendix, we provide instructions given to the participants and the wording of all questions for both the main survey and the follow-up survey.

C.1 Main Survey

C.1.1 Demographics and Attention

A. What is your year of birth?

Note: Text entry question. Only integers between 1900 and 2020 were allowed.

B. What is your sex?

- Male
- Female

C. Please select your state of residence.

Note: Participants had to choose one value from a drop-down list. The options included: 50 US states and District of Columbia.

D. How would you describe your ethnicity? Please check all that apply.

- White or European American
- Black or African American
- Hispanic or Latino
- Asian or Asian American

- Other
- I prefer not to say

E. What is the highest level of education you have completed?

- Less than high school
- High school graduate
- Some college
- 2 year degree
- 4 year degree
- Master's degree
- Doctorate degree
- Professional degree (JD, MD, etc.)

F. The next question is about the following problem. In questionnaires like ours, sometimes there are participants who do not carefully read the questions and just quickly click through the survey. This means that there are a lot of random answers which compromise the results of research studies. To show that you read our questions carefully, please choose both “Extremely interested” and “Not interested at all” as your answer in the next question. Do not select any other option. How interested are you in sports?

- Extremely interested
- Very interested
- A little bit interested

- Almost not interested
- Not interested at all

G. Generally speaking, do you usually think of yourself as a Republican, a Democrat, or an Independent?

- Republican
- Democrat
- Independent

Note: This question appears if "Independent" is selected in Part G.

H. As an Independent, do you think of yourself as closer to Republicans or Democrats?

- Republicans
- Democrats

I. How many people are in your household?

- 1 (live alone)
- 2
- 3
- 4
- 5
- 6 or more

J. What was your gross household income in 2021 in US dollars?

- Less than \$10,000
- \$10,000 - \$19,999
- \$20,000 - \$29,999
- \$30,000 - \$39,999
- \$40,000 - \$49,999
- \$50,000 - \$59,999
- \$60,000 - \$69,999
- \$70,000 - \$79,999
- \$80,000 - \$89,999
- \$90,000 - \$99,999
- \$100,000 - \$149,999
- More than \$150,000

K. What is your present religion, if any?

- Protestant
- Roman Catholic
- Mormon
- Eastern or Greek Orthodox
- Jewish

- Muslim
- Buddhist
- Hindu
- Atheist
- Agnostic
- Nothing in particular
- Something else [*Note: text entry*]

C.1.2 Issue Introduction

Thank you for taking the time to answer the questions about your background.

We are a group of **non-partisan researchers** interested in public policy issues.

You will now receive information about the following public policy issue: **Net Neutrality**.

Net Neutrality is the principle that your internet service provider (ISP) – the company that connects you to the internet – cannot control what you do on the internet. It also prevents ISPs from blocking or favoring particular content, websites, or applications.

Please check all that apply. Net neutrality principles affect:

- how impartial referees must be in volleyball, tennis, and other net-based sports.
- how the companies who provide internet service can control what their customers do on the internet.
- whether internet service providers can block or favor other companies' applications or websites.
- the types of equipment commercial fishing companies are allowed to use.

C.1.3 Partisan Block

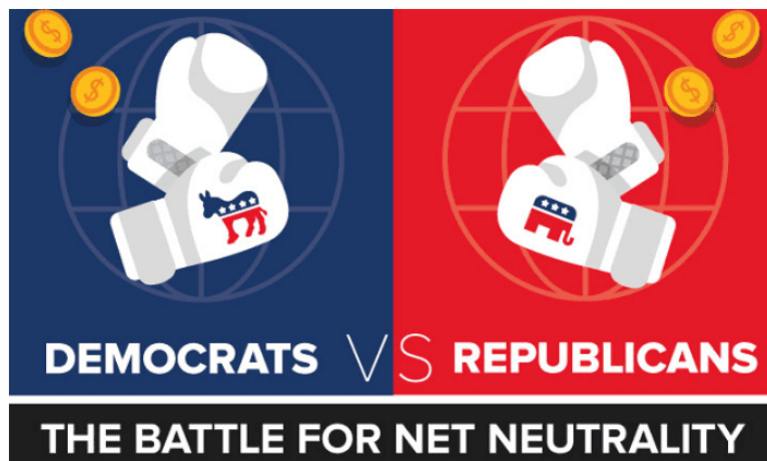
Note: This block appears immediately after the Issue Introduction for the participants in the Before group. For individuals in the After group, this block appears after the Non-Partisan Block

For such an important public policy issue, net neutrality has received little media attention in the United States.

Please have a careful look at the information about the history of the net neutrality debate provided on the next few screens. We will ask you questions about their content.

Note: The subsequent figures show the slides about the history of net neutrality debate that were displayed to the participants. Each slide was a separate screen in the Qualtrics survey. Any comprehension questions that appeared in a particular screen are provided immediately below the figure.

A History of the Net Neutrality Debate



Net neutrality policy in the United States has flip-flopped back and forth in the past decade, depending on who was the President at the time.

Figure C.1: Partisan Information: Slide 1

Net Neutrality policies were originally put in place by Obama.



Figure C.2: Partisan Information: Slide 2

Who was the US President when net neutrality policies were originally put in place?

- Bill Clinton
- George W. Bush
- Barack Obama
- Donald Trump
- Joe Biden

These policies were met with criticism by Republicans.

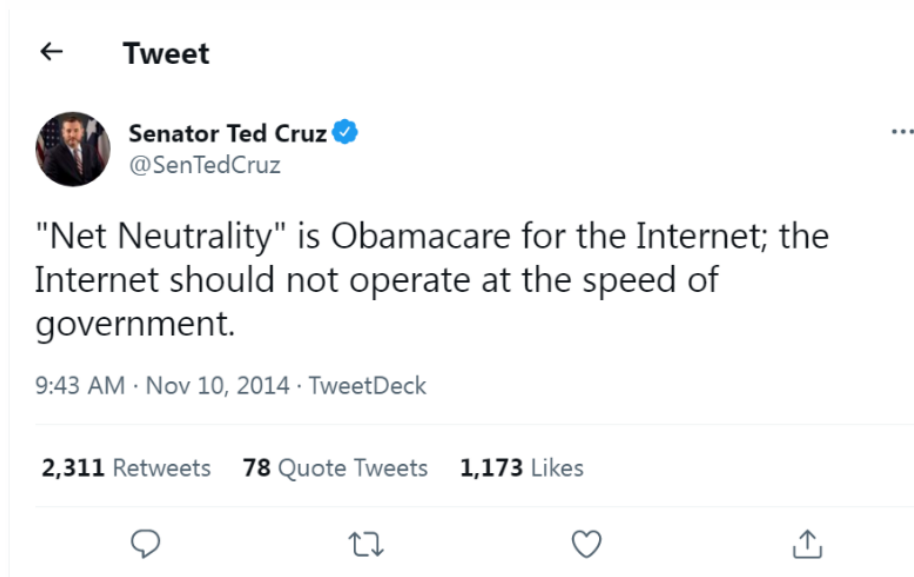


Figure C.3: Partisan Information: Slide 3

In the tweet above, which policy does Ted Cruz compare net neutrality to?

- The Monroe Doctrine
- The Green New Deal
- Affirmative Action
- The Paris Accords
- Obamacare

Then, Donald Trump became president...



Ajit Pai, FCC Chairman (left), Donald Trump (right)

...and many Democrats feared that Obama's net neutrality policies would be removed by Trump's FCC Chairman, Ajit Pai.

Figure C.4: Partisan Information: Slide 4

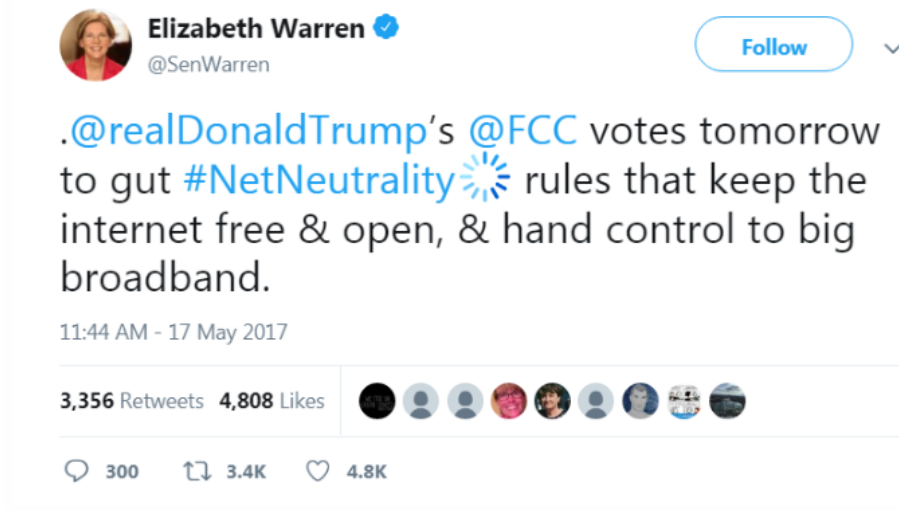


Figure C.5: Partisan Information: Slide 5



Figure C.6: Partisan Information: Slide 6

The Democrats' fears were realized when Ajit Pai led the FCC in overturning Obama's net neutrality policies.



Who was the US President when the FCC Chairman overturned the net neutrality policies?

Figure C.7: Partisan Information: Slide 7

Who was the US President when the FCC Chairman overturned the net neutrality policies?

- Bill Clinton
- George W. Bush
- Barack Obama
- Donald Trump
- Joe Biden

Since then, there have been attempts to restore net neutrality policies...

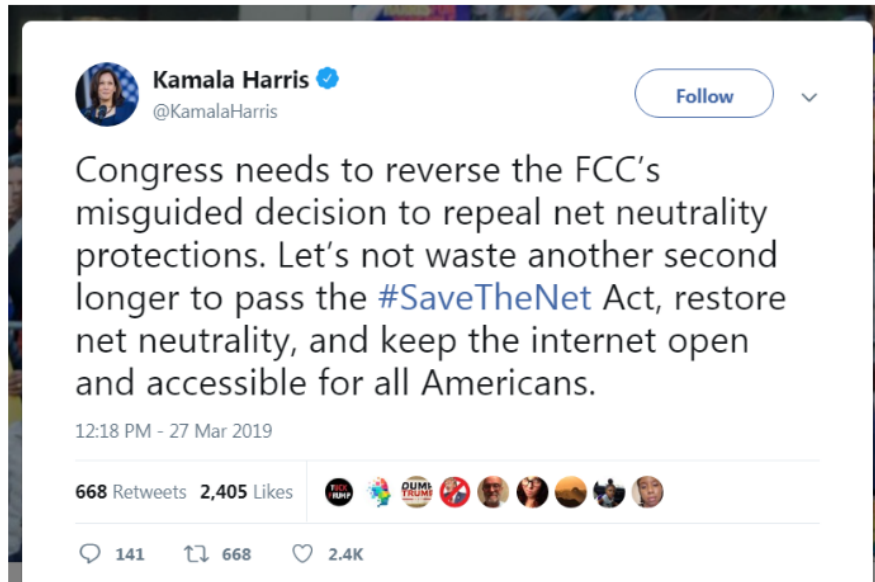


Figure C.8: Partisan Information: Slide 8



... but so far, these attempts to restore net neutrality policies have been unsuccessful.

Figure C.9: Partisan Information: Slide 9

C.1.4 Non-Partisan Block

Note: This block appears after the Partisan Block for the participants in the Before group. For individuals in the After group, this block appears immediately after the Issue Introduction for the participants in the Before group.

Below, you will find two videos on the issue of net neutrality. One outlines the **pros** of net neutrality, while the other focuses on the **cons**.

After you watch both videos, we will ask you about the arguments made in the videos. This is to check that you watched the videos. Additionally, we will award an extra bonus payment (\$0.60) for the top 25% of answers.

- **IMPORTANT:** Do NOT refresh your browser!
- Please click PLAY to watch; videos do not auto-play.
- You may skip to a specific part of the video only **AFTER** it has played completely through once.
- We encourage you to watch with audio enabled. However, subtitles are provided in case you cannot use the audio.

Pros of net neutrality



The second video will appear after you finish the first one.

Figure C.10: Non-partisan Information: Pro argument

Cons of net neutrality



Figure C.11: Non-partisan Information: Con argument

Which video was more convincing, pro or con? Choose one reason / argument / example from that video, and explain why it convinced you.

Your answer must:

- Focus on an argument from the videos.
- Be written in your own words.
- Min: 20 words, Max: 80 words.
- Next button will appear when you reach 20 words.

Extra: Top 25% of answers will earn a bonus of \$0.60. The side of the argument that you chose does not affect your chance of getting the bonus, only the clarity of the answer.

Your word count is: 0

Figure C.12: Non-partisan Information: Argument evaluation

On the previous page, you explained which argument from the videos about net neutrality you found the most convincing. Was it an argument in favor or against net neutrality?

- In favor of net neutrality
- Against net neutrality

C.1.5 Donation to the EFF

Here is your chance to contribute to protecting net neutrality.

The Electronic Frontier Foundation (EFF), rated 92.88 on CharityNavigator.org, is a nonprofit organization focused on protecting net neutrality.

We are offering all participants an additional bonus sum of \$.50. You may give as much of this bonus as you like to the net neutrality charity, EFF, and keep the rest for yourself.

On the slide bar below, please choose how much of the bonus you would like to **give to support net neutrality**.

Note: Participants could choose any amount between \$0 and \$0.5 using a slider, with precision to two decimal places. The slider was labeled “Donation in \$” on the left hand side.

C.1.6 Beliefs About Support for Net Neutrality

We are interested in your estimates regarding the support for net neutrality.

What percentage of the following groups support net neutrality?

- % Republicans who support net neutrality
- % Democrats who support net neutrality

Note: For each statement, participants could choose any integer between 0 and 100 using a slider.

C.1.7 Electoral Preferences

To what extent do you agree with the following statements?

- I will vote in the 2022 midterm elections.

- I support Democratic Party for Congress.
- I will vote for Donald Trump if he runs in 2024 presidential elections.

Note: For each statement, participants could choose any integer support level between 0 and 100 using a slider.

C.1.8 Affective Polarization

We would like to ask you about your feelings toward Democrats and Republicans. Please rate them using the scales below.

Higher ratings mean that you feel warmer and more favorable toward them.

- Democrats
- Republicans

Note: Participants could indicate their feelings on a scale from 0 to 100 using a slider. Five labels were provided: “Very cold feeling” (0), “Quite cold feeling” (25), “No feeling at all” (50), “Quite warm feeling” (75), “Very warm feeling” (100).

C.1.9 Credits

Thank you for participating in our study. We hope that it gave you an opportunity to learn a bit about the issue of net neutrality.

Please note that the videos that you watched during the survey were based on the YouTube video by the BBC available at <https://www.youtube.com/watch?v=zq-2Yk50gKc> and the YouTube video by PragerU available at <https://www.youtube.com/watch?v=aiZ8xwwycXA>.

Please proceed to complete the survey.

C.2 Follow-Up Survey

C.2.1 Attention

Please indicate how strongly you agree (or disagree) with the statements below.

- Technology plays an important role in my life.
- Alaska is one of the US states.
- I am an avid user of social media platforms.

Note: For each statement, participants could choose any integer support level between 0 and 100 using a slider. Five labels were provided: “Strongly disagree” (0), “Somewhat disagree” (25), “Neither agree nor disagree” (50), “Somewhat agree” (75), “Strongly agree” (100).

C.2.2 Introduction

Technology Issues Survey

Important decisions must be made about the ways we use our technology.

On the following pages, we will describe three issues. After reading a description of the issue, you will be asked how strongly you agree (or disagree) with a statement.

C.2.3 Technology Issues: Opinions

Note: We randomized the order in which the technology issues (net neutrality, carbon capture, and blockchain voting) appeared.

Net Neutrality

Net neutrality is a set of rules which say Internet Service Providers (ISPs) cannot block or prioritize certain internet content. In particular, ISPs cannot charge companies more for “fast lanes” or slow down the delivery of content for those who do not pay.

Please read the above description of the issue. Then, use the slider to indicate how strongly you agree (or disagree) with the statement below.

- I support net neutrality rules.

Note: Participants could choose any integer support level between 0 and 100 using a slider. Five labels were provided: “Strongly disagree” (0), “Somewhat disagree” (25), “Neither agree nor disagree” (50), “Somewhat agree” (75), “Strongly agree” (100).

Carbon Capture

Newly developed technology can remove CO₂ (a greenhouse gas) and store it in underground geological formations, where it cannot escape into the atmosphere. Coal-burning power plants can receive tax credits if they use this technology.

Please read the above description of the issue. Then, use the slider to indicate how strongly you agree (or disagree) with the statement below.

- I support tax credits for carbon capture.

Note: Participants could choose any integer support level between 0 and 100 using a slider. Five labels were provided: “Strongly disagree” (0), “Somewhat disagree” (25), “Neither agree nor disagree” (50), “Somewhat agree” (75), “Strongly agree” (100).

Blockchain Ballots

In order to provide election integrity and prevent voter fraud, blockchain technology (similar to that used in the authentication of cryptocurrency transfer) could be used for verifying the identity of voters and recording their ballots, privately and securely.

Please read the above description of the issue. Then, use the slider to indicate how strongly you agree (or disagree) with the statement below.

- I support blockchain-based voting systems.

Note: Participants could choose any integer support level between 0 and 100 using a slider. Five labels were provided: “Strongly disagree” (0), “Somewhat disagree” (25), “Neither agree nor disagree” (50), “Somewhat agree” (75), “Strongly agree” (100).

C.2.4 Technology Issues: Beliefs

Thank you for providing your opinion on these three issues.

We’re also interested in your predictions about the opinions other people might hold on these issues. Please provide your best guess about how much support these issues might receive among different demographic groups.

Note: The questions on beliefs regarding support for the three technology issues appeared in the same order as randomized for the previous section.

What percentage of the following groups **support net neutrality rules**? Please provide your best prediction.

- Among individuals under 30 years old, what % support net neutrality rules
- Among individuals over 30 years old, what % support net neutrality rules
- % Republicans who support net neutrality rules

- % Democrats who support net neutrality rules

Note: For each statement, participants could choose any integer between 0 and 100 using a slider.

What percentage of the following groups **support tax credits for carbon capture**? Please provide your best prediction.

- Among individuals under 30 years old, what % support tax credits for carbon capture
- Among individuals over 30 years old, what % support tax credits for carbon capture
- % Republicans who support tax credits for carbon capture
- % Democrats who support tax credits for carbon capture

Note: For each statement, participants could choose any integer between 0 and 100 using a slider.

What percentage of the following groups **support blockchain-based voting systems**? Please provide your best prediction.

- Among individuals under 30 years old, what % support blockchain-based voting systems
- Among individuals over 30 years old, what % support blockchain-based voting systems
- % Republicans who support blockchain-based voting systems
- % Democrats who support blockchain-based voting systems

Note: For each statement, participants could choose any integer between 0 and 100 using a slider.

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