In Need of the Devil's Advocate? The Impact of Cross-Cutting Exposure on Political Discussion

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Abstract

Cross-cutting exposure (i.e., the exposure to dissonant views) is a central component of political discussion among citizens. Although political discussion is a crucial form of political engagement and a well-known source of dissonance, little is known about the impact of cross-cuttingness (vs. like-mindedness; CCLM) elicited by media news on political discussion. In the present pre-registered online experiment ($N = 725$), news stories were manipulated to induce CCLM and investigate its positive effect on political discussion via a specific path: deliberative thinking and the repertoire of arguments. Although no total effect of CCLM on participating in a political discussion (operationalized as discussion intent) was found, a structural equation model showed specific indirect positive effects via our hypothesized paths. Our study therefore lends support to the positive democratic implication of cross-cutting exposure. Data and material are publicly available via https://osf.io/cpnzy/.

Keywords Cross-cutting exposure · Deliberation within · Argument repertoire · Political participation · Political discussion intent · Pre-registered experiment

Introduction

The assumption that exposure to dissonant political opinions is beneficial for democracy can be traced back to prominent political theorists like Stuart Mill (1859/ 2003) and Hannah Arendt (1961). From different normative views on democracy, the positive democratic implications of cross-cutting exposure have especially been emphasized within the deliberative democratic theory. For example, Habermas (1989) assumed that the exposure to dissonant views might stimulate intrapersonal reflection as well as political discussion between citizens. Moreover, according to Manin

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(1987), it enables citizens to comprehend the rationales for oppositional viewpoints, which increases the legitimacy of political decisions.

Indeed, previous research found that cross-cutting exposure has various beneficial effects: It increases political tolerance (Lyons & Sokhey, 2017; Mutz, 2002b; Robinson, 2010) and political knowledge (Kwak et al., 2005; Scheufele et al., 2006), and improves the quality of people's political opinions (Price et al. 2002). Furthermore, studies indicated that cross-cutting exposure encourages citizens to engage in specific political activities (e.g., Y. Kim & Chen, 2016; H. Lee et al., 2015; Lu & Myrick, 2016; Min & Wohn, 2018). In our study, we aim to complement the list of investigated outcomes by one concern that is at the heart of deliberative democracy: to involve citizens in a political discussion (e.g., Conover et al., 2002; Fearon, 1998; Manin, 1987; Teorell, 2006).

More specifically, in a pre-registered experiment with two different stimuli, we investigate whether mediated cross-cutting exposure (Mutz & Martin, 2001) elicited by news articles encourages or discourages citizens' willingness to engage in political discussion via a specific pathway: deliberation within (i.e., the consideration and evaluation of different opinions along with arguments and counter-arguments; e.g., Goodin, 2000; Mercier & Landemore, 2012) and argument repertoire (i.e., the number of arguments people can state for their own as well as for the opposite opinion; Cappella et al., 2002).

The Impact of Cross-cutting Exposure on Political Discussion

Although a whole line of research investigated the impact of cross-cutting exposure on political participation (Matthes et al., 2019), empirical evidence for its effect on political discussion is rather scarce. This is surprising insofar as, specifically from a deliberative perspective, political discussion can be seen as a vital if not the central form of political engagement (e.g., Barrett & Brunton-Smith, 2014; Delli Carpini et al., 2004; Teorell, 2006). Exposure to disagreement, that is, cross-cutting exposure, in turn, is seen as a "core requirement" of deliberation (Mutz, 2008, p.535). The relationship between the two concepts should therefore be of crucial importance for empirical deliberation research.

To gain indicative evidence of whether cross-cutting exposure might encourage or deter individuals from engaging in a political discussion we briefly review scholarship on related concepts and processes. A prominent approach dealing with exposure to dissonant views is the spiral of silence (Noelle-Neumann, 1974). The consistent finding of studies in this area is that, when opposed to disagreement and when perceiving to be in the minority, people are rather reluctant to speak up out of a fear of social isolation (see e.g., Glynn et al., 1997; Matthes et al., 2018; Scheufele & Moy, 2000). This concurs with the rationales and findings of various studies that cross-cutting exposure also decreases people's willingness to engage in other forms of political activities such as signing petitions or attending political meetings (e.g., Dilliplane, 2011; Heatherly et al., 2017; Lupton & Thornton, 2017; Moehler & Conroy-Krutz, 2016; Mutz, 2002a, 2006).

However, a considerable amount of studies also came to the opposite conclusion, that is, cross-cutting exposure encourages individuals to engage in political activities (e.g., Y. Kim & Chen, 2016; Kwak et al., 2005; H. Lee et al., 2015; Lu & Myrick, 2016; Min & Wohn, 2018; Scheufele et al., 2006). In our view, there is good reason to assume that the same holds true for people's willingness to partake in political discussion. Different rationales for such an assumption are prevalent: One is that through the exposure to dissonant views individuals might be encouraged to contemplate and learn more about their own viewpoints (e.g. Kwak et al. 2005). This may help them to better defend their own positions or to rationalize why their opinions differ from others' (cf. Mutz, 2006, p.63). Furthermore, it has been argued and shown that cross-cutting exposure increases not only political knowledge in general (Kwak et al., 2005; Scheufele et al., 2006) but also people's awareness of the rationales behind viewpoints other than their own (Mutz, 2002b). Taken together, these explanations concur with the finding that cross-cutting exposure increases people's argument repertoire (Cappella et al., 2002; Price et al., 2002). We argue that these processes induced by cross-cutting exposure should make people not only more confident but also more motivated to engage in political discussion. This claim is backed by the finding that the more people are informed about an issue the more willing they are to express their own views in public deliberation (e.g., Ho & McLeod, 2008; N. Kim, 2016; McLeod et al., 1999).

A positive impact on political discussion should apply to mass-mediated cross-cutting exposure particularly: To begin with, it is a long-standing argument that already on a general level the exposure to media, and to news in particular, may stimulate political discussion (e.g., Tarde, 2010). We propose that this is even more likely in the case of cross-cutting exposure via news media. Although many studies on cross-cuttingness have predominantly examined interpersonal networks, research has shown that news media may play an important role in raising awareness of diverse political opinions (e.g., Mutz & Martin, 2001). Besides, the mechanism suggested by the spiral of silence only comes to full effect in a homogeneous mass-mediated opinion climate, which is by far less probable in today's media landscape than it had been in the 1970s (e.g., Hayes & Matthes, 2017; Sohn, 2019). In our view, the line of reasoning that speaks for a positive effect of cross-cutting exposure on political discussion is thus the more convincing one.

Therefore, we hypothesize a positive total effect of cross-cutting exposure on the willingness to participate in a political discussion (H1).

Underlying Mechanisms of Cross-cutting Exposure Effects

As empirical evidence for the process as a whole (i.e., the effect of cross-cutting exposure on political discussion) is still missing, we aim to shed light on specific mechanisms. Following the rationales explained above, we assume the positive effect reflected in H1 to be mediated by a serial process: First, we build upon the notion that the exposure to dissonant views may prompt intrapersonal thought processes (e.g., Habermas, 1989; Kwak et al., 2005). More specifically, we suppose that cross-cutting exposure leads people to not only consider the opposite opinion that

they are confronted with but to also reconsider their own opinion as well as possible reasons that might speak for the one or the other. Such thought processes have also been called "deliberation within" (see e.g., Goodin, 2000; Mercier & Landemore, 2012). Second, we concur with the finding that cross-cutting exposure leads to an increased argument repertoire (Price et al., 2002). The question is, however, which of these effects—deliberation within and an enhanced argument repertoire—might come first.

To begin with, cross-cutting exposure does not automatically imply that one learns about the arguments supporting this view. An increasing number of arguments that are stored in memory is thus not a necessary consequence of cross-cutting exposure. However, it seems plausible that through cross-cutting exposure people will feel the need to remind themselves about the reasons for their own view, for example, because they become insecure about their own opinion and want to be prepared to defend themselves. Thus, deliberation within, which includes the consideration of arguments that favor one's own as well as others' political opinions (Mercier & Landemore, 2012; Weinmann, 2018), is a rather likely direct consequence of cross-cutting exposure. Deliberation within might even be a mandatory process for people to produce arguments on a specific political issue because only through this reflection the arguments will become salient (again) and their argument repertoire will be completed. And, even if in a situation with cross-cutting exposure people also learn about different (counter-)arguments, deliberation within might lead them to find even more arguments supporting their own as well as others' opinions. These conjectures are supported by a hypothesis introduced by Mercier and Sperber (2011) on the function of reasoning: "Reasoning enables people to exchange arguments that, on the whole, make communication more reliable and hence more advantageous. The main function of reasoning, we claim, is *argumentative*" (p. 60, emphasis in original). We, therefore, suggest a positive effect of cross-cutting exposure on deliberation within (H2) and assume an increased argument repertoire to be the subsequent consequence (H3).

At last and in line with the finding that argument repertoire is positively related to interpersonal deliberation (Cappella et al., 2002), we hypothesize that argument repertoire will positively affect political discussion (H4). Moreover, we follow the suggestion that deliberation within may be a means to prepare individuals for interpersonal deliberation (Goodin, 2000; Mercier & Landemore, 2012) and expect that it will also be directly positively related to political discussion (H5). Putting H2–H5 together, we expect a total positive indirect effect of cross-cuttingness on participating in a political discussion.

Argument repertoire, as argued above, has already been shown to be a positive consequence of cross-cutting exposure (Price et al., 2002). However, it might be the case that this effect is fully mediated via our proposed process of deliberative thinking and thus, we ask the research question: What is the effect of cross-cutting exposure on the argument repertoire after taking deliberation within into account (RQ)?

In other words, our theoretically assumed process starts with paying attention to information represented in a news story (cross-cutting exposure). This is followed by encoding and processing this information (deliberation within) and, in turn, leads to a newly created or updated storage of information (argument repertoire), which
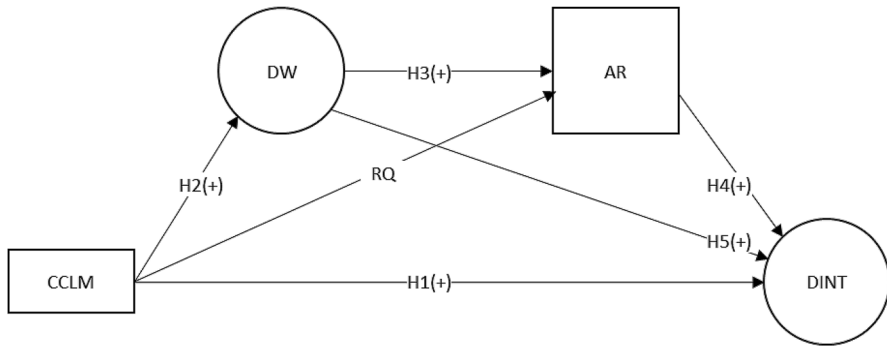
Fig. 1 Hypothesized model *CCLM* cross-cuttingness vs. like-mindedness, *DW* deliberation within, *AR* argument repertoire, *DINT* discussion intent

finally builds the basis for the willingness to participate in a political discussion. Such a cognitive mediation approach draws on traditional ideas of information processing (e.g., Eveland, 2001; Lang, 2006). For an overview of our hypotheses and the research question, see Fig. 1.

Methods

To test our assumptions, we conducted an online experiment with a 2 (Topic: legalization of marijuana; free public transport)×2 (Direction of Arguments: pro arguments; counter-arguments) between-subjects design. Although the manipulation of the direction of arguments related to one topic could have been sufficient, we included a second topic to rule out topic-specific effects. The main study was preregistered and all material (incl. stimuli, questionnaires, and codebooks) and data are publicly available at the Open Science Framework (OSF; Preregistration: https://osf.io/43avy; data and material: https://osf.io/cpnzy/).

Participants and Procedure

Sample Size Rationale

Based on an a priori Monte Carlo power analysis for a serial mediation model (given a statistical power $1-\beta=0.80$, a significance level $\alpha=0.05$, and effect sizes between $r=0.10$ and 0.50, our planned total *N* for the study was 800 participants (Schoemann et al., 2017; for more details, see pre-registration form at OSF).

Data Collection

During the second week of October 2018, data were collected via the professional German online-access panel Respondi that fulfills the highest quality standards according to ESOMAR (see www.esomar.org) and is ISO 26362 certified.

Participants were randomly drawn from the online-access panel and incentivized (0.75€). The target population was Germans, gender equally distributed, age ranging from 16 to 69, across all educational levels. Data collection stopped after reaching 800 fully completed questionnaires.

Sample Description

The age of the participants ranged from 16 to 69 ($M = 43.92$, $SD = 14.91$); 51% were female (49% male and two persons checked the inter/diverse option). Educational levels were broadly distributed (highest levels of education were: no school-leaving certificate 1.4%, secondary school-leaving certificate 30.1%, intermediate school-leaving certificate 35.1%, advanced technical college entrance qualification 7.4%, general qualification for university entrance 11.4, and university/technical college degree 14.6%).

Procedure

After entering the welcome page, participants signed a *broad consent* form that was in line with the General Data Protection Regulation (GDPR). Socio-demographic variables (i.e., gender, age, the highest level of education, and the size of the population of their place of residence) were asked to exclude participants who did not fulfill the criteria for our target population. On the next page, we asked the participants about their prior opinions about six topics in a randomized order. Then, participants were randomly assigned to one of four conditions and were instructed to read a news article. After reading the article, participants responded to items of the deliberation-within scale and used two open-ended text fields to name arguments that either oppose or support the topic of the respective article. Subsequently, their willingness to discuss the respective topic with others was assessed. Further, control variables, manipulation checks, and items to assess the quality of the article and the arguments were provided. Finally, participants answered if they read the article completely or gave reasons why this had not been the case. They also self-reported on their data quality and on what they suspected to be the goal of the present study, and could freely comment in an open-ended text field. On the last page, they were thanked, fully debriefed, and dismissed.

Exclusion of Participants

After looking at the responses and recoding the specified reasons, we excluded 75 participants from the study due to unfinished reading of the article or reporting of technical problems. Figure 2 shows a CONSORT flow chart of participant selection.

Materials and Measures

All materials (i.e., stimuli, questionnaires, and codebooks) are available in German and in English at OSF.
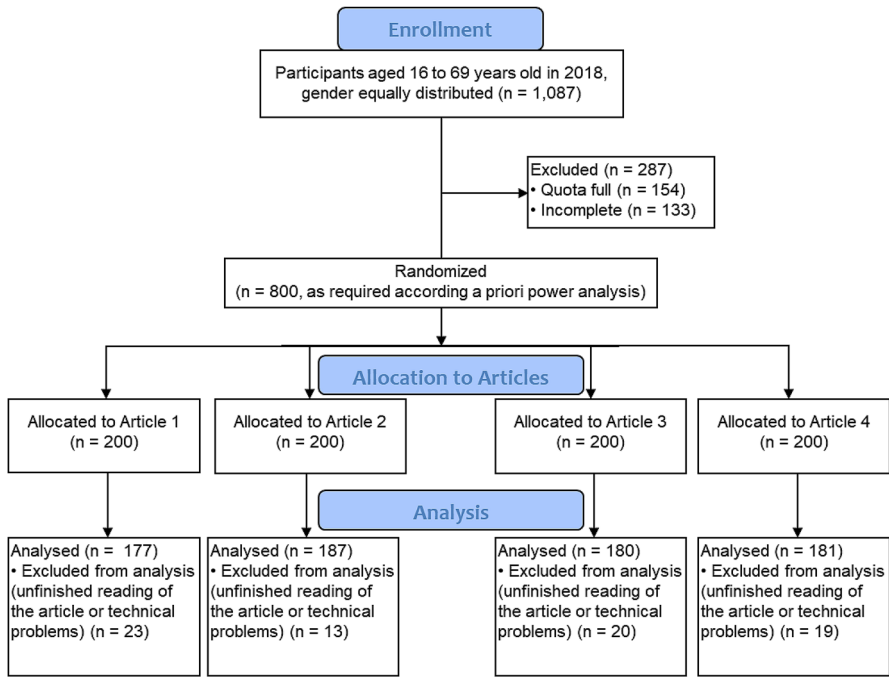
Fig. 2 CONSORT flow chart of participant selection

Cross-Cuttingness

Our main interest was to create a quasi-experimental variable reflecting exposure to dissonant vs. consonant views (i.e., cross-cutting vs. like-minded). Later, we will discuss why we chose a quasi-experimental over a pure experimental design. For now, we describe the experimentally manipulated variables (i.e., topic and direction of arguments), the measured variable (i.e., prior opinion about the respective topic), and how we combined those variables into a quasi-experimental index that represents our operationalization of cross-cuttingness.

Manipulated Variables

We created four German news stories (as they can appear on newsfeeds, blogs, or online news platforms) that varied in their topic and in their direction of arguments. Arguments were retrieved and distilled from several actual online news articles concerning the respective topics. All articles were similar in length (range = 230–241 words), organized in the same way, contained the same meta-data (e.g., name of a fictitious male author, title, header, publication date, etc.), and included the same number of arguments (i.e., five). For the exact wording and layout of the stimuli, see OSF. We used a dual-stimuli approach by choosing two different topics topic to rule out topic-specific effects. Assuming that there are opposing opinions to each topic,

we aimed at triggering responses on a continuum ranging from like-mindedness to cross-cuttingness by confronting individuals with one-sided positions.

Topic of the Article Articles 1 and 2 were about the legalization of marijuana (LOM), Articles 3 and 4 about free public transport (FPT). Both topics have been broadly and controversially discussed in the German public media for years and are associated with many arguments. Although there has not been a current debate on those topics while we planned and conducted the study, there are always peaks and troughs in news coverage.

Direction of Arguments Articles 1 and 3 contained only pro arguments, Articles 2 and 4 only counter-arguments. The direction of arguments of the respective articles was contrast-coded as –1 (contra) or +1 (pro).

Index of Cross-Cuttingness

Due to the reasons we describe below, we created an index that combines the strength of the prior opinion about the topic of the article with the direction of arguments. Thus, cross-cutting exposure means the stronger individuals oppose a topic the more cross-cutting they will experience the exposure to a supporting article, and vice versa, the stronger individuals support a topic the more cross-cutting they will experience the exposure to an opposing article.

Prior Opinion about the Topic of the Article Before randomly assigning the participants to one of the four articles, we asked the participants about their opinion on six controversially discussed topics (i.e., legalization of marijuana, free public transport, compulsory vaccination, genetic engineering, diesel driving ban, and unconditional basic income) in a randomized order on a five-point Likert-type scale ranging from 1 (*strongly oppose*) to 5 (*strongly support)*. The responses to LOM and FPT were recoded into a new variable with values ranging from –2 (*strongly support*) to +2 (*strongly oppose*). A value of zero indicates that they neither oppose nor support the topic. For those who afterward received the articles on LOM, the values of the prior opinion about LOM was used; for those who afterward received the articles on FPT, the values of the prior opinion about FPT was used. This new variable reflected the strength of the dissonant opinion about the presented topic. Although this variable was not manipulated, which kind of prior opinion contributed to the index depended on the randomly assigned topic of the article.

Rationale for Building the Index To operationalize our conceptual variable, cross-cutting/like-minded exposure (CCLM), we used a multiplicative index, CCLM = Direction of arguments times prior opinion. The scores and meanings of this index are: pro, strongly oppose: +2; pro, slightly oppose: +1; pro, neither nor: 0; pro, slightly support: –1; pro, strongly support: –2; contra, strongly oppose (= supports the pro): –2; contra, slightly oppose: –1; contra, neither nor: 0; contra, slightly support (= opposes the pro): +1; contra, strongly support: +2. More specifically, some examples illustrate

the meanings: Person A is against FPT (+2). She randomly receives the contra version (–1), thus, resulting in a CCLM score of –2 (=least cross-cutting/most like-minded). Person B is against FPT (+2). He receives the pro version (+1), thus, resulting in a score of +2 (=most cross-cutting/least like-minded). Person C is pro-FPT (–2). He receives the contra version (–1), thus, resulting in a score of +2 (=most cross-cutting/least like-minded). Person D is pro-FPT (–2). She receives the pro version (+1), thus, leading to a score of –2 (=least cross-cutting/most like-minded). Persons who chose the middle response option (neither-nor) will gain a zero independent of which version they received.

This approach of conceptualizing the cross-cuttingness makes use of the full variance (i.e., participants without prior opinion are not excluded) and keeps the full random assignment to the pro and contra conditions. Alternatively, it would have been possible to purposely assign participants to arguments opposing their prior opinions. However, we refrained from this option as we assumed that opinions concerning these topics could hardly be measured using dichotomies or categories. Thus, the index ranging from –2 to +2 may be more appropriate to reflect different levels of agreement.

In sum, the CCLM index—as a combination of prior opinion that was not experimentally manipulated and an experimental condition manipulating the pro or anti-tone of an article—represents the degree of cross-cuttingness and can be seen as a quasi-experimental variable.

Deliberation Within

To measure deliberation within, Weimann's (2018, Study 3, Model 2) five-item scale (e.g., "I have reflected on several opinions about the topic;" for the wording of the complete scale, see OSF) with response options ranging from 1 (*does not apply at all*) to 5 (*applies completely*) was used (McDonald's omega = 0.85). Throughout the text, the composite reliability estimator McDonald's omega is reported because Cronbach's α underestimates reliability in the case of congeneric measurement models (e.g., McDonald, 1999).

Argument Repertoire

Drawing on Cappella et al. (2002), in open-ended text fields, participants specified how many (up to 15) and which reasons that speak for or against the topic of the respective article came to their mind. Participants were also advised to include arguments they considered relevant to others. Pro arguments were coded with an integer, ranging from 1 to 15, depending on the number of valid pro arguments. Invalid or repeated pro arguments counted as 0. This would lead to a code of 0 if no valid argument was provided. If all text fields were skipped, the variable was coded as –99. In a second step, 0s and –99s were both coded as 0, meaning no valid pro argument has been specified. The same coding procedure was applied to the counter-arguments. Both variables were combined into an index

that reflects the total amount of valid pro and counterarguments and, thus, the argument repertoire. It could range from 0 to 30.

Two coders read the arguments and coded them after reading the codebook and receiving a brief training with one of the researchers. An argument was seen as valid if it justified why something has been done or should be done, why certain goals and interests are or should be pursued (Kuhlmann, 1999, p. 327; for further details, see the codebook at OSF). Each coder coded 440 out of all 800 cases. In total, 720 cases (360 for each coder) were coded by a single coder. In addition, both coders coded 80 identical cases. For those, Krippendorff's alphas as estimates for intercoder reliability were 0.87 and 0.96 for the pro for the counter-arguments, respectively.

Discussion Intent

Similar to Wojcieszak (2011), we operationalized political discussion as the intent to discuss respective topics, or the willingness to politically discuss with others. We adapted six items that assessed how likely it was that the participants would discuss the topics with others as a follow-up (e.g., Kleinmann and Kleinman 2015; Landreville & LaMarre, 2013). An example item reads, "How likely would you be to engage in a conversation about this topic with a coworker?" Response options ranged from 1 (*very unlikely*) to 5 (*very likely*) and McDonald's omega was 0.91.

The items were worded similarly (for details, see material at OSF). Items 1, 3, and 5 referred to the same target group (i.e., discussing with family and friends), whereas Items 2, 4, and 6 referred to discussion with co-workers. The pair of Items 1 and 2, 3 and 4, and 5 and 6 included the same wording but referred to different target groups. Thus, single-factor confirmatory factor analysis showed a bad model fit but an optimized measurement model accounting for the correlated error covariances of these indicators.[1]

Control Variables

Two relevant control variables were included based on theoretical considerations (e.g., Barrett & Brunton-Smith, 2014) and on the results of prior research: First, internal political efficacy was found to be positively associated with deliberation within and people's engagement in interpersonal deliberation (e.g., Moy & Gastil, 2006; Weinmann, 2018). Second, political interest (e.g., Baek et al., 2012; Cappella et al., 2002; Weinmann, 2018) was also positively correlated with those constructs as well as with argument repertoire. Response options of both scales ranged from 1 (*doesn't apply at all*) to 5 (*applies completely*).

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[1] For a depiction of the second-order model of discussion intent [DINT] with two sub-dimensions, see Fig. 3. Details about the analyses can be found in the file "delib_within_main_study.html" at OSF. We also ran the mediation analyses for the sub-dimensions separately. Results were similar for family and friends, but slightly different for coworkers; for further details, please see Online Appendix A and the file "delib_within_main_study.html" at OSF.

Internal Political Efficacy

Internal political efficacy (IPE) was measured using the Political Efficacy Short Scale (Beierlein et al., 2012) that consists of two items. Spearman–Brown corrected reliability estimate was 0.85.

Political Interest

Political interest was assessed using the Short Scale Political Interest (Otto & Bacherle, 2011) that comprises five items (McDonald's omega = 0.94).

Manipulation Checks

We used several items to check if the manipulation was effective and whether the quality of the articles and the arguments were identical across conditions.

Manipulation Check on Arguments' Direction

To assess how the participants perceived the arguments' direction, they rated the author's position (Trilling et al., 2017). Response options ranged from 1 (*strongly opposes*) to 5 (*strongly supports*) but were recoded to represent the level of disagreement, that is, +2 (*strongly opposes*) to −2 (*strongly supports*).

Manipulation Check on the Index of Cross-Cuttingness

The CCLM index described above was assumed to be related to the perceived dissonance concerning the topic of the respective article. Thus, participants answered to what extent the article corresponded with or contradicted their own opinion on the respective topic. Response options ranged from 1 (*completely contradicts*) to 5 (*completely corresponds*) but were recoded to represent the level of dissonance, that is, +2 (*completely contradicts*) to −2 (*completely corresponds*).

Evaluation of the Arguments and the Article

To check how the arguments and articles were evaluated, two items were used, assessing the perceived argument quality (i.e., convincing, valid; E.-J. Lee, 2007) and three items assessing the article quality (i.e., complete, amateurish [reverse coded], credible; Wittwer et al., 2004), each measured on five-point Likert-type response scales (for details, please visit OSF). Mean scores of argument quality and article quality were highly correlated ($r = 0.71$, $p \leq 0.001$). Thus, we combined them into a single mean score, representing the global evaluation of the article (McDonald's omega = 0.87).

Pilot Test

We piloted the articles in a small, independent sample ($N = 42$) of the same target population as described above. Results showed that the direction of arguments had a significant, very strong effect on the rating of the author's position ($\eta_G^2 = 0.61$, $p \leq 0.001$) but neither did the topic nor the interaction of topic and direction. Moreover, as expected, our CCLM index was highly positively correlated with the perceived dissonance of the article's topic ($r = 0.51$, $p \leq 0.001$). The successful manipulation of cross-cuttingness was also corroborated by the finding that only the CCLM index predicted the perceived dissonance significantly ($\eta_G^2 = 0.27$, $p \leq 0.001$) but neither did the topic nor the CCLM × Topic interaction. Finally, with regard to perceived article quality, FPT was evaluated significantly better than LOM across pro and counter-arguments ($\eta_G^2 = 0.14$, $p = 0.020$). Later, we will see that the picture was a bit different in the main study with the much larger sample.

In sum, the pilot test showed that we could successfully manipulate cross-cuttingness with our material and the CCLM index seemed to be a valid measure. Promisingly, results were the same across topics, except with regard to the small difference in quality evaluation.

Data Analytic Strategy

Before testing the structural part of the hypothesized model in a structural equation model (SEM), we ran several confirmatory factor analyses (CFA) to assess and, if necessary, optimized our measurement model, using the R package *lavaan* (Rosseel, 2012). Concerning CFA and SEM, we assumed that data would be non-normally distributed. Thus, we used maximum likelihood estimation with mean- and variance-adjusted LR test statistic to compute robust standard errors (MLMV estimator; Maydeu-Olivares, 2017). This procedure produces robust versions of the following model fit indices: According to Brown (2015), CFI ≥ 0.95 [0.90], RMSEA ≤ 0.05 [0.08–0.10], and SRMR ≤ 0.08 [0.10] indicate a good model fit (values in brackets indicate still acceptable or mediocre model fit). Results for the CFA model—including deliberation within (one factor, five items), political discussion intent (one second-order factor, two first-order factors, with three items each), and the two covariates, internal political efficacy (one factor, two items) and political interest (one factor, five items)—showed a good fit: robust $\chi^2 = 215.57$, $df = 124$, $p \leq 0.001$, $\chi^2/df = 1.74$, robust CFI $= 0.952$, robust RMSEA $= 0.032$, 90% of robust RMSEA [0.025, 0.039], SRMR $= 0.036$. We used significance tests applying an alpha-level of 0.05 and Monte Carlo (MC) simulated 95% CIs (Preacher & Selig, 2012) for the total indirect effect and specific indirect effects in the mediation model.

Results

Manipulation Checks

Replicating the findings of the pilot test, a two-way ANOVA showed that only the direction of arguments had an effect on the rating of the author's position, $F(1,721)=667.61$, $p\leq0.001$, $\eta_G^2=0.481$, but neither had the topic, $F(1,721)=0.200$, $p=0.655$, $\eta_G^2\leq0.001$, nor the Topic×Direction interaction, $F(1,721)=0.015$, $p=0.902$, $\eta_G^2\leq0.001$. Thus, the direction of arguments was successfully manipulated.

In line with the results of the pilot test, the CCLM index correlated highly positively with the experienced dissonance concerning the article's topic ($r=0.54$, $p\leq0.001$). We also ran a correlation with a subsample, excluding all participants who responded that they were neither pro nor contra ($n=573$). The correlation coefficient was almost the same ($r=0.56$, $p\leq0.001$). Fisher's z test revealed no significant difference between the correlations ($z=-0.051$, $p=0.304$). Moreover, in a two-way ANOVA, only CCLM had an effect on the perceived dissonance concerning the article's topic, $F(1,721)=293.43$, $p\leq0.001$, $\eta_G^2=0.289$; neither had the topic, $F(1,721)=0.087$, $p=0.768$, $\eta_G^2\leq0.001$, nor had the Topic×CCLM interaction, $F(1,721)=0.039$, $p=0.843$, $\eta_G^2\leq0.001$. Thus, the effect of inducing cross-cuttingness was successful, independent of the topic of the article.

Finally, testing for effects of topic and direction of arguments on the perceived argument and article quality showed that there was no main effect of the topic, $F(1,721)=0.12$, $p=0.729$, $\eta_G^2\leq0.001$, and also no interaction effect, $F(1,721)=0.01$, $p=0.916$, $\eta_G^2\leq0.001$. However, there was a small effect of the direction of arguments, $F(1,721)=16.29$, $p\leq0.001$, $\eta_G^2=0.022$. Thus, articles with pro arguments were evaluated as qualitatively higher than articles with contra arguments, independent of the topic. In additional exploratory analyses, we controlled for the fact that articles with pro arguments were evaluated better than those with counter-arguments. Although this turned the prior negative direct effect non-significant, these analyses showed that the hypothesized indirect effects were not biased. Delving deeper into this evaluative process in future research is warranted. For more details, see Online Appendix B.

Hypotheses Testing

Figure 3 shows the structural equation model for testing our hypotheses and addressing our research question. Model fit indices showed an acceptable model fit, robust $\chi^2=259.92$, $df=154$, $p\leq0.001$, $\chi^2/df=1.69$, robust CFI$=0.949$, robust RMSEA$=0.031$, 90% CI of robust RMSEA [0.024, 0.037], SRMR$=0.035$. Based on this model, direct, specific indirect, total indirect, and total effects were estimated (see Table 1). Internal political efficacy (IPE) and political interest (PI) were included as covariates. We also ran the model without covariates and yielded merely identical results concerning model fit as well as direct and indirect effects. The model also showed measurement invariance across topics and direction of arguments (for details, please see OSF online material).
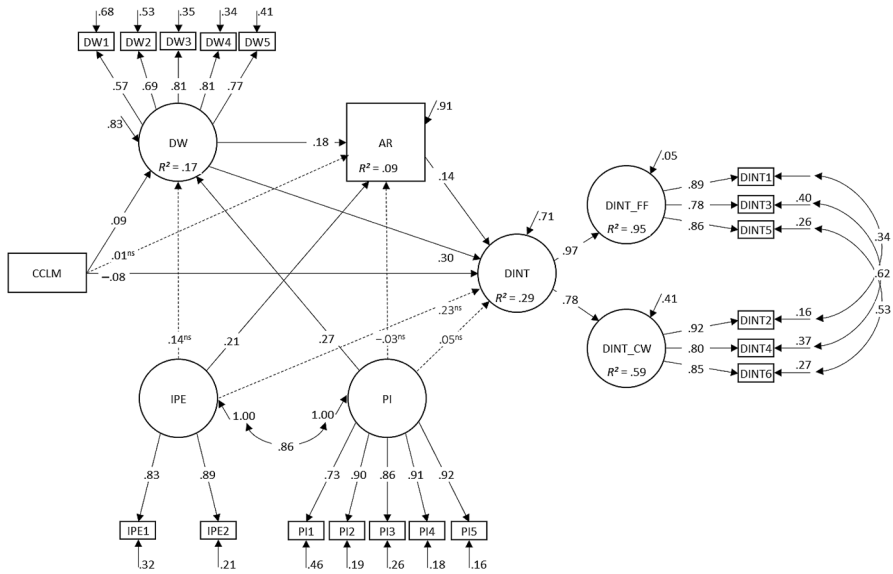
Fig. 3 Structural equation model ($N = 725$) with standardized coefficients significant at alpha = .05 (one-tailed). *CCLM* cross-cuttingness vs. like-mindedness, *DW* deliberation within, *AR* argument repertoire, *DINT* discussion intent (DINT_FF = discussion intent with family and friend, DINT_CW = discussion intent with co-workers); *IPE* internal political efficacy (covariate), *PI* political interest (covariate). Non-significant paths are displayed as dashed lines. Note that all loadings of the first indicators of each latent variable were fixed to 1.0 for scaling, except for the second-order factor DINT (variance was fixed to 1.0)

In contrast to H1, there was no significant total effect of CCLM on political discussion intent (DINT), $\gamma = -0.04$, $p = 0.190$ (see also Table 1). This is largely due to the significant negative direct effect of CCLM on DINT, $\gamma = -0.07$, $p = 0.025$. However, we found a significant positive effect of CCLM on deliberation within (DW), $\gamma = 0.04$, $p = 0.020$, supporting H2. As expected in H3, DW was significantly positively associated with the argument repertoire (AR), $\gamma = 0.63$, $p \leq 0.001$. AR, in turn, significantly positively predicted DINT, $\gamma = 0.07$, $p \leq 0.001$, thus supporting H4. Further, DW was directly significantly positively related to DINT, $\gamma = 0.56$, $p \leq 0.001$, which was in line with H5. Moreover, the indirect path from CCLM via DW and AR to DINT was small but positive, $\gamma = 0.002$, MC 95% CI [0.0002, 0.005], as was the total indirect effect of CCLM on DINT, $\gamma = 0.03$, MC 95% CI [0.003, 0.054]. Finally and concerning the RQ, CCLM had no direct effect on AR, $\gamma = 0.01$, $p = 0.845$, but a significant positive indirect effect via DW, $\gamma = 0.03$, MC 95% CI [0.004, 0.056].

Discussion

Drawing on the notion that cross-cutting exposure can be beneficial for political discussion (e.g., Habermas, 1989), we tested a specific indirect effect of cross-cuttingness elicited by news articles via deliberation within and argument repertoire on discussion intent. Our results concerning the assumed mediating

Table 1 Unstandardized direct, specific indirect, total indirect, and total effects

Predictor and dependent variables	Total effect		Direct effect		Total (T) / specific (S) indirect effect	
	Estimate	SE	Estimate	SE	Estimate	MC 95% CI
Deliberation within (DW)						
Cross-cuttingness (CCLM)			0.042*	0.018		
Argument repertoire (AR)						
CCLM	0.038	0.059	0.011	0.059		
CCLM→DW					S: 0.027*	0.004, 0.055
DW			0.632*	0.144		
Discussion intent (DINT)						
CCLM	−0.042	0.032	−0.068*	0.031	T: 0.026*	0.003, 0.054
CCLM→DW					S: 0.024*	0.004, 0.048
CCLM→AR					S: 0.001	−0.008, 0.010
CCLM→DW→AR					S: 0.002*	0.0002, 0.005
DW	0.606*	0.117	0.561*	0.115		
DW→AR					S: 0.045*	0.017, 0.081
AR			0.071*	0.020		

$N = 725$. All significance tests were conducted applying an alpha-level of .05; MC 95% CI = Confidence intervals for specific indirect and total indirect effects were estimated using Monte Carlo simulations (20,000 repetitions) as described by Preacher and Selig (2012)

All effects are controlled for internal political efficacy and political interest see Fig. 3

*$p < .05$

processes (H2–H5) lend support to the proposed chain of mechanisms: Cross-cutting exposure encourages deliberation within, which increases people's argument repertoire, and having more arguments in mind then leads to a greater willingness to discuss the respective political issue with others. These significant positive specific indirect effects support the positive democratic implication of cross-cutting exposure (e.g., Habermas, 1989; Manin, 1987) and deliver at least some small piece of evidence for the more positive perspective on the effects of cross-cuttingness (e.g., Kwak et al., 2005; H. Lee et al., 2015; Lu & Myrick, 2016; Min & Wohn, 2018; Price et al., 2002; Scheufele et al., 2006). However, contrary to our assumptions that cross-cutting exposure overall positively affects the participation in a political discussion with others (H1), there was no significant total effect of cross-cuttingness on political discussion intent. Although this finding is in line with the results of a recent meta-analysis of the effects of cross-cuttingness on political participation (Matthes et al., 2019), the direct effect of cross-cuttingness on discussion intent was even negative. As our preregistered experiment focused on the mechanisms underlying an indirect positive effect of cross-cutting exposure and did not include variables that account for mechanisms that explain indirect negative effects, we can only speculate why this direct negative effect emerged. In additional exploratory analyses (see Online Appendix B), we found that the negative effect was driven by subtle differences in the perception of the

stimuli. These results indicated that this could be one explanation as the negative direct effect was only because the more cross-cutting the participants perceived the article the less quality they ascribed to them, which in turn had consequences for deliberation within and discussion intent. Taking the evaluation of article and argument quality into account showed negative indirect paths via evaluation but also still significant positive indirect effects via deliberation within and argument quality, thereby supporting our central assumptions. It is hard to tell whether the differences in the perceived quality of the arguments and articles stemmed from our specific material or the general processing of pro and counter-arguments. Integrating aspects of motivated skepticism or disconfirmation bias (e.g., Taber & Lodge, 2006) in future experiments would surely be a fruitful endeavor to delineate pathways that lead to negative consequences of cross-cuttingness.

In sum, in our experiment, the positive and negative effects of cross-cuttingness canceled each other out leading to a non-significant total effect. However, we think that focusing only on non-significant total or direct effects may overlook important mechanisms (e.g., Zhao et al., 2010). On the one hand, thinking about issues, enriching the argument repertoire by doing so, and thus, considering it more likely to engage in politics in a discussion seems to be more than small side effects. On the other hand, concerning cross-cutting exposure, we still know too little about co-occurring and competing processes that suppress, confound, or mediate its effects. Thus, following Lu and Myrick (2016) and Matthes et al. (2019), we think that experimental approaches can help further unraveling the mediating mechanisms more appropriately.

With these contributions in mind, such an approach has also some limitations that we would like to mention. First, although the use of the CCLM index seems to be a valid way to integrate observed prior opinion and experimentally manipulated content (as indicated by our manipulation checks), this is the only manipulated variable in the mediation model. Thus, we can only provide a sound theoretical rationale why we assumed that the specific (causal) order is as we modeled it. Nevertheless, alternative models are also possible: Some models are rather unlikely (e.g., that discussion intent might influence argument repertoire). However, other models seem plausible as well—in particular, one that assumes a reversed order of deliberation within and argument repertoire. It might have been the case that our manipulation of cross-cutting exposure (i.e., the articles that included five arguments each) expanded people's argument repertoire with dissonant arguments, which might have provoked deliberation within. We would still argue that our model is more likely—not only because the rationale explained above fits traditional assumptions well (such as those proposed in the cognitive mediation model, e.g., Eveland, 2001), but also because we asked all of our respondents to name pro as well as counter-arguments. This means we measured their argument repertoire above and beyond the arguments that were included in the articles. It is thus likely that the respondents came up with several of their arguments through "deliberating within." Nevertheless, to rule out those alternatives, it is necessary to also experimentally manipulate the mediators in future studies (e.g., Pirlott & MacKinnon, 2016).

Second, our study tested only the theoretically assumed positive mediation effects. As reported before, there are also studies which suggest negative mediation

effects, for example, that cross-cutting exposure leads to attitudinal ambivalence, which deters people from expressing their opinions (Mutz, 2006). Although we found and, in the light of our findings, still find the positive path to be more convincing, the negative mechanisms could of course only be ruled out by including and testing them against the positive ones.

The third limitation relates to the first but goes beyond. Deliberation within is a self-reported cognitive process; argument repertoire consists of the self-reported arguments that came to mind; participation in a political discussion was operationalized as the self-reported willingness to discuss with others. These constructs do not tap into actual cognitive processes or behaviors. This may be a minor issue concerning deliberation within and argument quality because these constructs are conceptualized and successfully measured as self-reported perceptions. However, when it comes to addressing deliberation, the relationship between intention to discuss and the actual participation in a discussion or sharing of arguments is often moderated by other constructs (Ajzen, 2001). Thus, future research should include more observational measures of deliberation such as participating in an online deliberation forum or at least include some cover story that makes participants think that they will actually discuss their arguments with others directly after answering the questions.

Fourth, as is the case with most experimental stimuli, the articles may lack external validity. Providing those extreme types (i.e., articles with one-sided arguments) are valid ways to induce cross-cuttingness. However, it is unclear if we can generalize the respective results to other types of articles. In daily life, individuals do rarely encounter these pure forms. Rather, they are faced with pro and counter-arguments, sometimes even with invalid ones, or they turn to attitude-consistent news media as research on selective exposure has often shown (e.g., Knobloch-Westerwick & Meng, 2011). As we know from persuasion research concerning the credibility of two-sided and one-sided arguments, many other factors are important as well, for instance, if arguments are refuted (e.g., O'Keefe 1999). Although we did not aim at manipulating the credibility or the persuasiveness of the articles but the cross-cuttingness, knowledge from this area of research could help future studies to design articles in a more ecologically valid fashion and to include a third condition with a set of balanced arguments as a contrast against the cross-cutting and like-minded conditions.

Fifth, as we used a German sample, our findings may not be generalizable to other countries and should be replicated while considering particular cultural contexts that may impact the examined relationships through different cultural norms. However, a recent meta-analysis by Matthes et al. (2019) indicated that the effects of cross-cutting exposure on political participation did not depend on the participants' culture (e.g., the US vs. Asia vs. Europe).

Finally, our operationalization of cross-cutting exposure was specific and different from previous research. On the one hand, news media has been previously used to investigate exposure to dissonant views (e.g., Mutz & Martin, 2001) and we are convinced that mass-mediated cross-cutting exposure is an important additional perspective for research on this issue, which is continuously gaining importance. On the other hand, however, it bears the problem that our findings are not fully comparable

to previous ones because research often conceptualized cross-cuttingness as disagreement within groups or networks (e.g., Eveland & Hively, 2009). Not surprisingly, the fact that we manipulated cross-cuttingness via news stories and asked about the intention to discuss the topics with friends, family, or coworkers, may preclude specific processes like social accountability (e.g., Mutz, 2002a). Consequently, as our study was not an experimentum crucis, we cannot rule out that such processes may occur in other settings. Thus, in future studies, deliberation within and discussion intent should be put to the test by using experimental designs that allow social relationships to potentially play a role.

Conclusion

Experimental research on the effects of cross-cuttingness on political participation is scarce. However, to deal with heterogeneous and inconsistent findings, such an approach seems necessary, especially to examine the mechanisms that may be triggered by exposure to cross-cutting media content. Our pre-registered study was a first step to delineate a specific positive process that leads via elaborating, learning, and knowledge to political participation. On the one hand, a negative direct effect of cross-cuttingness on the willingness to discuss political issues with others was found. On the other hand, when taking the hypothesized mediating variables into account, positive indirect effects emerged from deliberative processing and enriching one's own argument repertoire. Thus, it seems to be a fruitful endeavor to unravel such compensating processes.

Declarations

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