

**No Need to Watch:
How the Effects of Partisan Media Can Spread via Inter-Personal Discussions⁺**

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Abstract

To what extent do partisan media sources shape public opinion? On its face, it would appear that the impact of partisan media is limited, given it attracts a relatively small audience. We argue, however, that its influence may extend beyond its direct audience via a two-step communication flow. Specifically, those who watch and are impacted by partisan media outlets talk to and persuade others who did not watch. We present experimental results that demonstrate this process. As a result, we show that previous studies may have significantly under-estimated the effect of these outlets. We also show that how the two-step communication flow works is contingent on the precise composition of the discussion group (e.g., does it consist of all fellow partisans or a mix of partisans?). We conclude by highlighting what our results imply about the study of media, preference formation, and partisan polarization.

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The last quarter-century has given rise to a fundamentally different media landscape. One of the most noted changes, when it comes to politics, concerns the expansion of partisan media. Partisan media are a type of contemporary programming that eschews objectivity in favor of a particular point of view (e.g., Jamieson and Cappella 2008). While such outlets have attracted a great deal of attention, their audience amounts to only 10-15 percent of the American public (Prior 2013). This suggests that partisan media has, at best, a limited impact on most citizens' preferences. Or does it?

We argue that partisan media does, in fact, have a large effect on public opinion. Partisan media may only directly impact a small proportion of the population, but this influence can spread much more broadly via inter-personal discussions: those who watch and are impacted by partisan media talk to and persuade others who did not watch. The result is that the partisan media influences non-watchers via a two-step communication flow (i.e., partisan media influences watchers who pass that influence along to non-watchers).

The idea of a two-step communication flow is not new, dating back nearly 70 years (Lazarsfeld, Berelson, and Gaudet 1948; Katz and Lazarsfeld 1955); however, we are unaware of any direct (empirical) application to the study of partisan media. This is a particularly notable gap. If partisan media has indirect effects via two-step communication flows, it suggests that prior work may be underestimating its impact. This is especially important because partisan media is central to ongoing debates about mass polarization, as some scholars claim it strongly polarizes the electorate, others claim it conditionally polarizes the electorate, and still others claim it has no effect on electoral polarization (c.f., Sunstein 2007; Stroud 2011; Arceneaux and Johnson 2013;

Levendusky 2013). Because inter-personal discussion may shape the effects of partisan media, previous work may not have correctly estimated its effects either on mass polarization or politics more generally.

In what follows, we investigate two-step communication flows originating from partisan media outlets. We begin by generating hypotheses about (1) how partisan media directly influence individuals' opinions, (2) how partisan media effects can be passed along to others, who have not seen the media, via inter-personal discussions, and (3) how those discussions affect the opinions of those who had watched in the first place. We test our predictions with a laboratory experiment that varied partisan media exposure, participation in inter-personal discussions, and the nature of such discussions – that is, whether they involved only fellow partisans (e.g., a homogeneous group of all Democrats) or a partisan mix (e.g., a heterogeneous group of Democrats and Republicans; see Mutz 2006).

We find strong support for two-step communication flows; those who did not watch partisan media, but talked with those who did, formed opinions that match those who only watched. In fact, the two-step effects can be *larger* than the direct effects of exposure itself, suggesting that prior work may underestimate the potential impact of partisan media. We additionally find that the nature of the group (e.g., partisan homogeneous or heterogeneous) matters, but *even* heterogeneous groups can serve as conduits for partisan media effects. We detail these and other results, showing that overall, inter-personal discussions can fundamentally shape the impact of partisan media. Our results have implications for the study of media, preference formation, and

polarization, as well as for experimentalists who seek to study spillover communication effects.

Two-Step Communication Flows in an Era of Partisan Media

Two-step communication flows are one of the empirical workhorses of political communication research. The original definition states: “ideas, often, seem to flow from [media communications] to opinion leaders and from them to the less active sections of the population” (Katz and Lazarsfeld 1955: 32; also see Katz 1957; Downs 1957).

Understanding a two-step communication flow requires first addressing the question of how the initial media exposure influences individuals’ opinions. As with all media, the influence of partisan media depends on source, message, receiver, and contextual factors; we look at the case where clearly partisan outlets offer partisan valenced messages on an issue that divides the parties but one on which people do not hold strong prior opinions. This is typical of many of the issues discussed on these outlets (Levendusky 2013).

Consider three scenarios. First, an individual who *shares* the partisan identity of the network (e.g., a Republican watching Fox News) will view the source as credible and the message content will resonate with his or her partisan values. Consequently, the individual will move his or her opinions in the same direction advocated by the communication, relative to those not exposed (Baum and Groeling 2010; Levendusky 2013). Such exposure polarizes attitudes: it moves them in a partisan-consistent direction.

Second, in highly partisan environments, such as receiving a valence inconsistent message from an out-party source (e.g., a Republican watching MSNBC), individuals may counter-argue and move in the opposite direction from that put forth by the out-party communication (Druckman, Peterson, and Slothuus 2013; Leeper and Slothuus 2014), or

they may simply view the source as speaking to their opponents and consequently take the opposite position (Lupia and McCubbins 1998: 60-61). Arceneaux and Johnson (2013: 104) explain that “counter-attitudinal news can be just as polarizing as pro-attitudinal news.” So both same-party and opposite-party media exposure should polarize opinions.

The third scenario concerns when individuals can choose which network to watch – a reality in the modern media landscape. What occurs in this circumstance depends on the amount of choice, availability of alternative cues, and other factors. Here, we focus on a situation with some limited degree of choice, as that has typically been the focus of previous literature (Druckman, Fein, and Leeper 2012; Arceneaux and Johnson 2013).¹ In such situations, all else constant, individuals typically opt for outlets consistent with their partisan identity to a greater extent than those inconsistent with their partisan identity. For example, Democrats will choose to watch MSNBC more than they will choose to watch Fox News (Berelson, Lazarsfeld and McPhee 1954: 251; Taber and Lodge 2006; Stroud 2011). This choice to be exposed to same-party media, in turn, polarizes opinions. Thus, in all three scenarios, given our aforementioned focus, we expect that those exposed to partisan media to polarize relative to those who are not exposed to media (hypothesis 1).

What happens when individuals who are exposed to partisan media interact with those who are not? This is the core question for two-step communication flows. The precise effect likely depends on the nature of the discussion group. Group composition

¹ As we discuss in the supplemental appendix, different assumptions about the choice scenario will lead to different predictions. We view investigating these sorts of differences as an important next step in this research agenda.

influences how discussions shape attitudes; partisan *homogeneous groups* – made up of only Democrats or only Republicans – have very different effects from *heterogeneous groups* with a mix of individuals from both parties (Sinclair 2012; Klar 2014).²

To start, then, consider a homogeneous group made up of fellow partisans, some of whom watch partisan media and others of whom do not. Assume that the group discusses the issue covered in the partisan media content. Those who watched partisan media will likely put forth the accessible arguments learned from partisan media exposure. These arguments should be persuasive given shared partisan values (Hornikx and O’Keefe 2009: 40). Moreover, the political nature of the discussions likely bring to light individuals’ political orientations, and those who had not watched may follow the positions of their credible fellow partisans (Lupia and McCubbins 1998; Lenz 2012). In homogeneous groups, then, those who did not watch partisan media will polarize relative to those who are exposed to neither partisan media nor discussion (hypothesis 2a). Moreover, they should hold opinions that largely match those who were only exposed to partisan media: that is the essence of the *two-step communication flow* (hypothesis 2b).

What happens to previously unexposed individuals in heterogeneous groups is more subtle. Like those in the homogeneous discussion, they will find arguments from their own partisan perspective persuasive. This should generate polarization, relative to those who are exposed to neither partisan media nor discussion (hypothesis 3a). That

² Our focus is on partisan disagreement in groups (Huckfeldt, Johnson, and Sprague 2004) rather than more general disagreement (Mutz 2006). We made this choice given our theory’s focus on partisan media, and leave for future work the effects of other types of disagreement (Klofstad, Sokhey, and McClurg 2013).

said, because the discussion has participants from both parties, it will introduce arguments from both sides of the aisle, which should vitiate, but not eliminate, the polarizing effect of discussion. This follows because messages from same-party members that cohere with partisan values will be relatively more persuasive than arguments from out-party members. Thus, individuals in heterogeneous groups (who did not watch partisan media) will be less polarized than those only exposed to partisan media or their counterparts who were in homogeneous groups (hypothesis 3b; see also Vinkour and Burnstein 1978).

Finally, consider those individuals who watched partisan media and participated in the discussion. As mentioned, these individuals have numerous accessible arguments that they likely will repeat in the discussion. In homogeneous groups, these views typically will go unchallenged, given a shared partisan perspective. Repetition and public expression without counter-argument polarizes the opinions of those speaking relative to those only exposed to partisan media (hypothesis 4a; see Cacioppo and Petty 1989; Druckman and Nelson 2003; Neiheisel and Niebler 2015).³

Heterogeneous discussions have a different effect on those who watched since the arguments put forth will this time likely be challenged. The interactive nature of discussions involves a give-and-take, which simulates reflexive thinking, perspective-

³ Homogeneous groups also encourage extremity due to increased partisan motivated reasoning (Sunstein 2009; Klar 2014) and social conformity (Sinclair 2012; Levitan and Verhulst 2016). Individuals are encouraged to express the majority viewpoint, which reinforces the underlying belief and facilitates polarization (Visser and Mirable 2004; Isenberg 1986).

taking, and a pressure to justify one’s opinion (Wojcieszak 2011; Druckman 2012). These elaborative processes mean that rather than denigrating the alternative arguments – as we predicted in the case of unilateral receipt of out-party media where we expect less elaboration – individuals will consider them and update accordingly. The result is moderation of opinion relative to those only exposed to partisan media (hypothesis 5a; see Druckman and Nelson 2003; Klar 2014).

It is worth noting that those exposed to both partisan media and homogeneous discussion receive a “double dose” of the treatment. Consequently, they should polarize even further not only relative to individuals only exposed to partisan media (hypothesis 4a), but also relative to those who only engage in homogeneous discussion (hypothesis 4b). Those who are exposed to partisan media and participate in heterogeneous discussions also receive a “double dose” but a different type of mix. We expect them to polarize relative to individuals who only participate in heterogeneous discussion, since this latter group will not have been moved by partisan media prior to the discussion (hypothesis 5b). As stated in hypothesis 5a, however, these individuals will not be as polarized compared to those who only watched.

Table 1 summarizes our hypotheses. In that table, we present the scenarios we discussed (with “YES” indicating that experience and “NO” indicating not that experience), and we list the hypotheses in the last column (e.g., see hypothesis 1).⁴

[Insert Table 1 about here]

⁴ Taken together, our hypotheses suggest a rank ordering from most polarized to least polarized, as follows (group numbers correspond to those given in Table 1): group 4 > group 2 = group 1 > group 5 > group 3 > group 0 (control).

Experimental Design

We test our hypotheses with a laboratory experiment. In the experiment, we randomly assign three factors: (1) whether or not a subject is exposed to partisan media content, (2) whether or not a subject participates in group discussion, and (3) conditional on being assigned to group discussion, whether said discussion is heterogeneous or homogeneous. A heuristic depiction of our experimental procedure is given in Figure 1, which includes labels to the groups that match those presented in Table 1. The figure charts the random assignment of subject to different groups: baseline of no partisan media exposure or discussion (group 0), only exposure to partisan media (group 1), no exposure to partisan media but discussion of one type or the other (groups 2 and 3), and exposure to partisan media and one of the discussion scenarios (groups 4 and 5).

[Insert Figure 1 about here]

This nicely sets up the key contrasts we need to test our hypotheses. For example, to test hypothesis 1 (concerning the impact of only partisan media exposure), we can compare subjects in group 1 (only partisan media exposure) to those in group 0 (no partisan media or discussion). Another example is we can test the two-step communication flow hypotheses by comparing groups 2 and 3 (those only exposed to different types of discussion) against group 0 (control condition; hypotheses 2a and 3a) and group 1 (only partisan media exposure; hypothesis 2b, 3b, in part). Those comparisons allow us to see if the effects of direct media exposure compare to indirect media exposure. As will be clear when we present our results, testing the other hypotheses is equally straightforward.

There is one important caveat to the design as we have presented it thus far. Recall that when it comes to those only exposed to partisan media, we discussed three scenarios: same-party media, out-party media, or media choice. Given our design, we expected the same effects on opinions in all these situations. Even so, since past work is not entirely consistent on this (c.f., Arceneaux and Johnson 2013; Levendusky 2013), we introduced each possible exposure scenario in the experiment by randomly assigning those exposed to partisan media to a same-party outlet, out-party outlet, or choice situation. This multiplies the number of conditions we implemented, leading a total of 16 conditions. For interested readers, we present those in Table 2, mapping them onto the aforementioned groups.

[Insert Table 2 about here]

To preview our results below, consistent with our expectations, we do not find any notable differences across media exposure type, with individuals polarizing in every case. For our general analyses, then, we pool across media exposure types (as implicitly assumed in Table 1 and Figure 1); however, we show the results separated by media exposure type in the supplemental appendix and our results do not change.

Procedure

To implement our experiment, we needed to make a set of decisions related to both the partisan media exposure and the group discussion. We recognize that these decisions significantly influenced our results, and we offer an extended discussion of them (and how future experiments could vary them) in our supplemental appendix. First, for our partisan media stimuli, we opted for approximately 12 minutes of actual partisan cable news from the two leading outlets: Fox News and MSNBC. For Democrats

(Republicans), MSNBC is the same-party (out-party) source, and Fox News is the out-party (same-party) source. This reflects the partisan slant of both networks as characterized by outside observers, audience demographics, and previous research (Levendusky 2013; Arceneaux and Johnson 2013).⁵ In cases where we allowed individuals to choose their media content, we offered a 7 different media choices: 2 were same-party, 2 were opposite-party, 1 was neutral news (on an unrelated topic), and 2 were apolitical options. All of these options were shown to respondents as links from which to choose on a computer screen.⁶

Second, we used the issue of the Keystone XL pipeline and the ensuing larger debate about America's domestic energy production, especially with regard to drilling. We identified two recent segments on the topic from each network, and edited them to be of equal combined length (approximately 12 minutes; we provide transcripts in the supplemental appendix). The Fox segments focused on the economic consequences of

⁵ Moreover, we conducted a pre-test with individuals who did not participate in the main experiment. We asked participants to rate the extent to which they trusted and found various networks to be knowledgeable. The results overwhelming showed that Democrats (Republicans) found MSNBC (Fox) to be substantially more trustworthy and knowledgeable than their partisan counterparts (also see Pew Research Center 2014).

⁶ We discuss why we designed the choice condition the way we did in the supplemental appendix. As explained there, we recognize our design may have increased the likelihood of partisans choosing like-minded outlets. We also acknowledge that future studies could alter our choice design in many interesting ways. For example, one important extension will be giving subjects topical neutral news.

more oil and gas drilling, especially the increase in jobs generated (a pro argument), while the MSNBC segments centered on the environmental risks posed by drilling (a con argument), consistent with the real-world arguments deployed by each side. The issue of drilling has been used in prior studies of partisan reasoning (Levendusky 2010; Druckman, Peterson, and Slothuus 2013) and, while clearly being an issue that divides the parties, it is also one on which participants were unlikely to have strong priors and thus their opinions were susceptible to influence given that the issue was never particularly salient during our study (we document this point in the supplemental appendix).

Third, to investigate the impact of discussion groups, individuals in the relevant conditions (see Table 1 or Figure 1) engaged in small in-person homogeneous or heterogeneous discussions immediately after media exposure. We follow prior work by forming groups that on average contained four individuals (e.g., homogeneous groups have 4 Democrats or 4 Republicans, heterogeneous groups have 2 Democrats and 2 Republicans; see Klar 2014). This size coheres with empirical work that suggests political discussion networks often include 3-4 total people (Klofstad, McClurg, and Rolfe 2009).⁷

⁷ Due to variation in the number of respondents per session (and the need to form heterogeneous/homogeneous groups), group size actually varies between 3 and 6 (homogeneous groups can have 3-6 respondents, heterogeneous groups have only 4 or 6 participants). 80% of groups have 4 respondents, 8% have 5 participants, 8% have 6 participants, and 3% have 3 participants. Controlling for the number of discussants per group does not change our substantive results below.

In each discussion group, half of the subjects are exposed (i.e., they watched the political video segments or chose among videos), and half are unexposed. For example, a homogeneous discussion group might include 4 Democrats, 2 of whom watched the MSNBC segments (in Table 2, condition 11 in group 4) and 2 of whom did not (in Table 2, condition 5 in group 2). Because half of every group had been exposed to partisan media, and half had not, we have the ideal case to test for two-step communication flows: do the arguments from those exposed affect those who were not exposed? We did not include groups that contained only exposed or only unexposed individuals since this would not allow us to test a two-step communication flow, and such experiments have been done elsewhere (see, e.g., Karpowitz and Mendelberg 2014; Klar 2014).

Because our theoretical expectations derive in part from partisan motivated reasoning, we focus our analysis below on partisans (and we treated partisan leaners as partisans; see Druckman, Peterson, and Slothuus 2013). But if pure Independent respondents came to our sessions, we randomly assigned them to discussion groups, subject to two constraints mentioned in the footnote below. We also present analyses of pure Independents in the supplemental appendix and show that their results *very* much parallel the results that we present for partisans below.⁸

⁸ There are two constraints when assigning pure Independents to discussion groups. First, because pure Independents do not identify with either party, they can be assigned to either homogeneous Democratic or homogeneous Republican discussion groups. Second, in every heterogeneous group, there was at least one individual from each party who received a partisan media message. That is, no heterogeneous groups involved an

We fielded our experiment on 575 subjects between November 2013 and November 2014. We recruited participants from community, civic, religious, and hobby groups, as well as from University campuses, in a large city on the East Coast and a large city in the Midwest. Although the subjects in no way approximate a random sample, they are relatively diverse.⁹ Participants took part in our approximately one-hour experiment in exchange for a payment for themselves or a modest donation to their group (when relevant), as they preferred.

When individuals arrived at the site for the experiment, they began by briefly filling out a pre-test questionnaire that measured their partisanship and background demographics. Subjects then completed a distraction task, during which we assigned them to their relevant conditions (i.e., partisan media exposure or not, discussion or not, and if in discussion, what type). Subjects then watched their partisan media content (if assigned to do so),¹⁰ participated in their group discussion (if assigned to do so), and then completed their post-test instrument. Individuals assigned to discussion conditions knew individual from one party receiving a message and the only other individual receiving a message being a pure Independent.

⁹ The sample is 53% Democrat and 32% Republican (including leaners), 49% female, 29% minority, 32% student-aged, and 38% have a household income of less than \$100,000 per year.

¹⁰ To avoid a pure exposure confound, all subjects watched some media content. Those assigned to watch partisan media did so as discussed above; those not assigned to watch partisan media (groups 0, 2, and 3) watched an equivalent amount of non-political content (from *Entertainment Tonight* and *Sports Center*).

in advance of watching any media that they would be asked to “discuss the media segments” in small groups. In the group discussions, we asked each person to state his or her opinion about what was watched. We arbitrarily selected which person in a given discussion group would speak first. Then there was time for open discussion (in total, the groups discussed the issue for approximately 5-6 minutes). Afterwards, they received their payment and left. In the supplemental appendix, we provide the complete set of instructions given to participants in our study.

Results

Testing our hypotheses about the two-step communication flows requires measures of respondents’ attitudes on our central issue: the Keystone XL pipeline and oil and gas drilling more generally. In our post-test instrument, we included 3 items to measure these attitudes: support for the Keystone XL pipeline, support for increased coastal drilling, and support for opening up more federal lands to drilling. All 3 items use a 7-point Likert scale to measure subjects’ attitudes. The three items are strongly related ($\alpha = .92$), so we analyze them as one scaled item (the mean of these three items). Using a scaled item minimizes measurement error and creates a more stable measure (Ansolabehere, Rodden, and Snyder 2008). Further, as with analogous work (e.g., Levendusky 2013), we recode the measure such that higher values indicate greater attitudinal extremity in a partisan direction. Specifically, for Republicans who typically support such drilling, higher values indicate more support for drilling, whereas for Democrats, higher values indicate more opposition to drilling. So, for example, if a Democrat expresses the strongest pro-drilling attitude, he scores a 1, since his opinion is strongly out of step with his party. Likewise, a Democrat who expresses the strongest

anti-drilling opinion scores a 7, since his attitude is maximally in line with his party's position (and for Republican, the same is true, except the direction is reversed). Put another way, the measure captures "same-party" movement for all respondents regardless of their party. This facilitates testing our hypotheses, which offer predictions about polarization/moderation of attitudes (i.e., movement in a same-party/opposite-party direction).¹¹

To begin, we verify that partisan media messages polarize those who watched them. An initial point concerns the media choice condition, where we predicted a tendency to choose same-party sources; this is what we found, with the vast majority of subjects (79%) selecting at least some same-party media content (see the supplemental appendix for more detailed results and discussion). We test hypothesis 1 by focusing on our partisan media exposure only group (group 1), and comparing them to those in the control (group 0). Specifically, we regress our outcome (attitudinal) measure on condition variables for *each* of the three partisan media exposure scenarios (i.e., same-party, out-party, choice); these tell us how each type of partisan media exposure polarized attitudes relative to those in the control.

[Insert Table 3 About Here]

The results in column 1 of Table 3 strongly support hypothesis 1 (all p -values are for two-tailed tests). All three types of media exposure generated polarized opinions. The substantive effect is slightly less than 1 scale point on the 7-point scale, or approximately 3/4 of a standard deviation. Since we cannot statistically distinguish between the effects

¹¹ In the supplemental appendix, we present results separated out by party, which support the same substantive conclusions.

of any of the different media types,¹² in the remainder of the body of the paper, we pool across media types so as to simplify presentation (and consistent with our general design presentation in Table 1 and Figure 1 where we grouped all types of partisan media exposure). We present results broken down by media type and with control variables in the supplemental appendix; none of the results we present below change when we do that.

Next, we move to the core of our analysis: the possibility of a two-step communication flow. We focus on groups 2 and 3 – those who were not exposed to partisan media but engaged in discussions with those who were exposed. Our hypotheses, here, require comparing the outcomes from these group 2 and 3 individuals against both the baseline group 0 and those only exposed to partisan media (group 1). While column 2 of Table 3 displays the relevant regression for these data, we also present an easy to read graphical depiction of means (with associated 95% confidence intervals) for all groups in Figure 2.¹³

¹² The relevant p-values are: same-party vs. out-party, $p=0.22$, same-party vs. choice, $p=0.18$, and out-party vs. choice, $p=0.92$.

¹³ For reference, our 575 subjects break down as follows: $N = 37$ control subjects (group 0), $N = 102$ exposure only subjects (group 1), $N = 139$ homogeneous discussion only subjects (group 2), $N = 73$ heterogeneous discussion only subjects (group 3), $N = 149$ homogeneous discussion and exposure subjects (group 4), and $N = 75$ heterogeneous discussion and exposure subjects (group 5). The smaller number of subjects in heterogeneous group discussion reflects the fact that those groups are more difficult to form.

[Insert Figure 2 about here]

For now, we focus on the 4 top lines in Figure 2 (groups 0-3), as these allow us to test for two-step effects. The top line represents the baseline control, showing a mean of 4.15; the majority of control subjects (62%) are within 1 point of the scale midpoint, as most people do not hold strong opinions and are fairly uninformed about their party's position. This opens the door to attitude change either via framing (learning about job creation/economic consequences or environmental risks; see Chong and Druckman 2007) or learning of their party's position (Lenz 2012). The second line, in Figure 2, comes from those only exposed to partisan media (group 1), and it simply reiterates the aforementioned significant effect, consistent with hypothesis 1 (and could reflect framing or cue-taking, as just mentioned).

The third and fourth lines represent mean values from individuals not exposed to partisan media but who engaged in homogeneous (group 2) and heterogeneous discussion (group 3), respectively. We see strong support for hypotheses 2a and 3a, both of which predict polarization of these two non-exposed discussion groups, relative to the baseline (group 0). The effect of homogeneous discussion (the third line; group 2), relative to the group 0 baseline, is particularly large; these subjects' attitudes become nearly 1.5 standard deviations (1.7 units) more polarized ($p < 0.01$; p-values in this section come from the regression results in column 2 of Table 3). The effect of heterogeneous discussion (the fourth line; group 3), by contrast, is much more modest, as it increases polarization by only one-third of a standard deviation, or 0.4 units (though this too is

statistically significant, $p < 0.05$).¹⁴ Thus, those assigned to participate in homogeneous/heterogeneous discussion (without media exposure) move toward their party's position because of the group discussion. In effect, the discussion – especially homogeneous discussion – transmits the information from the media segments, and respondents learn where their party stands on the issue and/or are exposed to persuasive frames. *What we see clearly is two-step communication flows in both homogeneous and heterogeneous groups.*

To assess the relative size of these effects, we compare those only exposed to partisan media (i.e., line 2, group 1) versus those only in discussions. For those who only participate in homogeneous discussion (line 3, group 2), the effects of discussion alone are substantially larger than the effects of direct media exposure: more than twice as large (1.75 units vs. 0.88 units higher than the control), and the difference is highly statistically significant ($p < 0.01$). This contradicts hypothesis 2b that suggested those in homogeneous discussion groups only (group 2) should mimic those only exposed (group 1); however, it violates it in the opposite direction than one might expect. Clearly, there is a two-step communication flow and in fact that flow exacerbates the effect. We should not assume that indirect effects are smaller than direct effects: they can be much larger. We suspect this may be the case because exposure only provides information whereas

¹⁴ Note that while the confidence intervals for groups 0 and 3 overlap somewhat in Figure 2, the difference between the two is statistically significant, as indicated by the regression in column 2 of table 3. This is a common pattern (Gelman and Stern 2006).

discussion not only provides relevant information but also generates strong conformity pressures when in homogeneous groups (Sinclair 2012; Levitan and Verhulst 2016).¹⁵

Those who engage in heterogeneous discussion only (line 4, group 3), in contrast, significantly *moderate* their attitudes relative to those who only watched partisan media (line 2, group 1; $p < 0.01$). The heterogeneous group also moderated relative to those who only engaged in homogeneous discussion groups (line 3, group 2; $p < 0.01$). Both these comparisons are consistent with hypothesis 3b. In short, heterogeneous discussion alone makes subjects more polarized than baseline – and hence there is some two-step communication flow – but the effect was more moderate than media exposure only or homogeneous discussion only. The composition of the discussion group critically shapes the nature of two-step effects.

Our findings are consistent with our theoretical expectations: in homogeneous groups, not only do subjects perceive all of the arguments to be compelling, they go unchallenged. Further, because everyone in the discussion is like-minded, there is social pressure to adopt the group's common position. In contrast, with heterogeneous discussion, individuals hear both sides of the issue, and they consider the opposite, which moderates their beliefs. Clearly, when thinking about two-step media effects, we should

¹⁵ While our study cannot differentiate the effects of these competing mechanisms (party cues, social conformity, the effects of civility in the group discussion, etc.), designing studies to unpack these effects is an important task for future work. Note that here, because the dependent variables were private self-reports, the effect of conformity was likely more internal rather than external. We thank an anonymous reviewer for making this point to us.

be critically inquiring about the nature of the discussion group, as this dramatically changes the nature and shape of such effects.

While we did not record the group discussions, our pattern of results is consistent with what we observed when conducting the sessions. In homogeneous groups, those who had been exposed repeated the arguments from their party (e.g., environmental risks or job creation/economic consequences), and the unexposed uncritically accepted these framed arguments. In addition to the persuasive arguments (or framing of the issue), individuals' partisan identification typically became, at least implicitly, evident, meaning that there also could have been a process of people learning where their party stood on the issue and they followed suit. If this latter dynamic was at work, the process is simple: find out where your party stands and take that stand (Lenz 2012). In the heterogeneous groups, by contrast, there was more debate over the merits, since both sides of the issue were represented in the group. Additionally, while partisan identifications became fairly clear, there were less conformity pressures and the relatively civil nature of the discussion may have vitiated the power of party cues (Druckman, Peterson, and Slothuus 2013).

Two items from our post-test instrument provide evidence on the particular persuasiveness of homogeneous groups. We asked those who had participated in either type of discussion to rate the trustworthiness and knowledge of those in their discussion group. In both cases, we find large differences between homogeneous and heterogeneous groups: on a 1-7 scale, those who engaged in homogeneous discussion find their group members to be 1.6 points more trustworthy ($p < 0.01$) and 1.7 points more knowledgeable ($p < 0.01$) relative to those who participated in heterogeneous discussion. Both effects are a bit more than one full standard deviation, suggesting that homogeneous participants are

viewed as better sources of information, consistent with theories of common interest and persuasion (Lupia and McCubbins 1998), as well as theories of social conformity effects. Unsurprisingly, therefore, homogeneous groups are more polarizing.

Our final set of analyses look at the impact of those who were exposed to partisan media and then *also* participated in homogeneous (group 4) or heterogeneous (group 5) discussions. Again, while we focus on the graphical results in Figure 2, the relevant regression results can be found in column 3 of Table 3. We can see from the fifth line (group 4) in Figure 2 that those exposed and in homogeneous groups polarized substantially further than those who were only exposed (line 2; group 1): partisan media exposure alone polarizes but adding homogeneous discussion polarizes even more ($p < 0.01$; p-values in this part of the discussion come from column 3 in Table 3). Moreover, much like our results above, we find that heterogeneous discussion after exposure (line 6, group 5) moderates subjects relative to media exposure only, and the difference is statistically significant ($p < 0.04$). These two results support hypotheses 4a and 5a: heterogeneous discussion critically introduces opposing arguments, which causes respondents to moderate their issue position. Once again, the effect of discussion on media is crucially contingent on the type of discussion.

Finally is the question of whether the interactive effects of partisan media and discussion exceed those of discussion alone. Here we find no support for hypotheses 4b and 5b, which predicted greater effects for those who both watched partisan media and deliberated. Indeed, if we look at Figure 2, we see that attitudes in groups 2 (homogeneous discussion only) and 4 (homogeneous discussion and media exposure) are nearly identical (the p-value on the difference is 0.39), as are the attitudes in groups 3

(heterogeneous discussion only) and 5 (heterogeneous discussion and media exposure; the p-value here is 0.33).¹⁶ Those who watch partisan media and deliberate end up no more polarized than those who simply deliberate.

This might seem, at first glance, as if conditional on discussion, media exposure has a limited effect. But this is not right, given that media exposure provides the arguments and evidence that subjects then use in their follow-up discussions. So the media segments give structure and logic to the discussion in an important way, and shape the two-step effects we find above. Absent the structure and arguments provided by these

¹⁶ In both cases, the relevant p-value comes from testing the null hypothesis that the sum of the direct effect of partisan media exposure and the interaction term between media and discussion is zero (e.g., $\beta_{media} + \beta_{interaction} = 0$). While the effect of media exposure and the interaction terms are all individually significant in column 3, their sums are near 0. For example, in the case of homogeneous discussion, the main effect of media is 0.881, but the interaction term is -0.777, for a net effect of 0.104, which is not statistically significant. Or put differently, to assess the effect sizes, consider that the effect on an individual assigned to media exposure and homogenous discussion can be calculated (see column 3) by putting together the coefficient for media exposure (.881), homogenous discussion (1.743), and the interaction (-.777). Thus, an individual in that condition substantially polarizes versus the baseline by a total of 1.847 (i.e. .881+1.743 - .777), but does not polarize much more than homogenous discussion alone (a 1.743 effect).

media segments, the discussions would likely have been quite different (though testing this requires a different experimental setup than the one we use here).¹⁷

Conclusion

Our goal in this paper was to apply the classic concept of a two-step communication flow to the study of partisan media. In assessing whether a two-step process occurs, one can ask: (1) does the effect of partisan media spread, at all, from those who watched to those who did not watch? And/or (2) is the effect such that those who did not watch are moved so much that they resemble those who watched? We find that when it comes to homogeneous groups, the answer to both those questions is a strong “yes.” Those who did not watch partisan media but who entered discussion groups with fellow partisans who did watch strongly polarized. In fact, they “more” than resembled those who only watched insofar as they polarized even further, likely due to the mix of information and conformity pressures. Partisan media clearly affected those who did not watch that partisan media, via homogeneous discussions.

Those who did not watch but participated in discussions with heterogeneous groups also were clearly affected by partisan media – they polarized relative the non-

¹⁷ If we re-analyze the data conditional on education, we find that education moderates the effects of both partisan media and discussion, with larger effects for the more highly educated (see the supplemental appendix for these results). We suspect that this is due to the better educated having an easier time unpacking the partisan cues in these messages, but we leave full exploration of this topic to future work. The result is highly consistent with work that shows more sophisticated individuals are more apt to adopt their party’s position (e.g., Lenz 2012; Bolsen, Druckman, and Cook 2015; Kahan 2015).

exposed. Here too, then, the two-step communication flow of partisan media worked and polarized *even in a heterogeneous group*. That said, those in heterogeneous groups did not come to fully resemble those who watched partisan media – because their discussion presented both sides of the issue, they considered both perspectives and polarized less. Our heterogeneous group finding is particularly intriguing given that in most scenarios such groups generate tolerance of other points of view (Mutz 2006). This is certainly true even in our case given the extent of polarization was not extreme; however, we show that heterogeneous groups also can generate polarization relative to those with no information exposure. The overall point is that the impact of partisan media may well be spread beyond its direct audience via inter-personal discussions, even when the discussion groups contain a mix of partisans.

Our results also underline the powerful effect of discussion. While scholars have traditionally focused on media exposure itself, we show here how discussion adds a new wrinkle to the study of mass communication. As mentioned, we showed that the indirect effect of media exposure (via group discussion, the two-step flows) can be larger than the direct effects themselves, a point missed by earlier scholars. Further, even for those who initially are exposed to media, the effects of said exposure can vary dramatically based on subsequent group discussion. In short, rather than simply studying media exposure in isolation, our results underline how vital it is to study it within the context of group discussion and conversation. This echoes and re-confirms a trend in the literature, suggesting any study of communication *must* consider interpersonal discussion as part of the process (e.g., Sinclair 2012).

Like all experimental studies, ours has some important limitations. First, we focused on a case where we were likely to find partisan media effects, as our goal was to focus on two-step effects. Future work can examine how different types of media messages might condition two-step effects. Second, we focused here on in-person group discussion, but an important future dynamic is to consider how dyadic discussion and/or discussions via social media might alter the results we present here. Third, we focused on groups that were either all of one party, or contained an equal mix of Democrats and Republicans. In the real world, the partisan composition of discussion groups varies widely, and this undoubtedly affects the results of such discussions. While these are important avenues for future study, our results nevertheless represent a vital step for considering how these sorts of effects operate in today's media environment.

With these caveats in mind, we want to accentuate some implications of our findings for understanding preference formation, media effects, and political polarization. For preference formation, our findings uncover an important lacuna: how media shape the effects of discussion (and likewise, how discussion shapes the effects of media). This has both methodological and substantive implications. Scholars have certainly studied how media and group discussion shape preferences separately, and in some cases how discussions interact among individuals who were all previously exposed to media communications. Yet few, if any, previous works have considered how one may build upon or extend the other. Methodologically, we translated an issue/common concern in field experiments to a new design approach for laboratory experiments. A standard presumption in experiments is the stable unit treatment value assumption (SUTVA), such that there is no interference or communication between units in different treatments. This

is an important assumption if one wants to ensure individuals treated (e.g., with a media message) do not influence those not treated (e.g., via communication about the message). If the assumption is violated, then assessing treatment effects is problematic (Sinclair 2011). Yet, as some field experimentalists have noted, violation of this assumption is sometimes of interest since, if it is properly assessed, one can see if a treatment can spread via social diffusion: “Making SUTVA an object of study instead of an assumption has the benefit of providing new insights about inter-personal influence” (Sinclair 2011: 482). In essence, we put forth a design that explicitly violated that assumption because we wanted to see if a treatment could spread. We believe this type of design can be useful across lab, field, and survey experiments.

Our results also speak to those interested in media effects. One obvious implication – discussed above – is that we cannot simply consider media exposure on its own, but rather need to consider it in conjunction with discussion. This is especially true in our modern era of social media, where individuals consume media in a rich context, including discussion and comments from others, some of which are notably uncivil. This potentially extends the reach of media and reshapes how we think about “media influence” more generally. Indirect effects of media – via a two-step process – are increasingly even more important than the direct effects of exposure itself.

Finally, when it comes to polarization, it is true that partisan media’s audience is limited, but because these people are somewhat more involved and partisan, they are especially likely to be opinion leaders (Stroud 2011). These individuals can then talk to others about what they watch, and the effects spread through the mass public more broadly. So even with a small audience, the net effects of partisan outlets need not be

small (Levendusky 2013). Thus, prior work – which shows meaningful direct effects of these outlets – may under-estimate their importance. While two-step effects can either moderate or polarize attitudes, because homogeneous discussion is much more common than heterogeneous discussion (Mutz 2006), amplification, rather than moderation, is the likely consequence of group discussion. So when individuals talk about partisan media outlets in like-minded company, their already sizable effects can grow. While scholars have long understood how group discussion shapes attitudes, that insight has not translated into studies of mass polarization. Sidestepping debates about the level of mass polarization, our findings here point to the importance of considering how group discussion can work to shape attitudes and move individuals toward the extremes. To understand the dynamics of polarization, then, we need to understand how mechanisms like media exposure and group discussion contribute to polarization. Our findings here provide a step toward that goal.

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Scenario	Watch Partisan Media?	Participate in Homogeneous Discussion?	Participate in Heterogeneous Discussion?	Hypothesis (all else constant)
Control (Group 0)	NO	NO	NO	Baseline: Not exposed to partisan media and not engaged in a discussion.
Partisan Media Only (Group 1)	YES	NO	NO	Hypothesis 1: Polarize relative to the baseline group of no exposure or discussion (group 0).
Homogeneous Discussion Only; two-step communication flow (Group 2)	NO	YES	NO	Hypothesis 2a: Polarize relative to the baseline group of no exposure or discussion (group 0). Hypothesis 2b: Similar to those only exposed partisan media only (group 1).
Heterogeneous Discussion Only; two-step communication flow (Group 3)	NO	NO	YES	Hypothesis 3a: Polarize relative to the baseline group of no exposure or discussion (group 0). Hypothesis 3b: Less polarized than those only exposed to partisan media (group 1) and those who only engage in homogeneous discussions (group 2)
Partisan Media and Homogeneous Discussion (Group 4)	YES	YES	NO	Hypothesis 4a: Polarize relative to those only exposed to partisan media (group 1) Hypothesis 4b: Polarize relative to those who only engage in homogeneous discussions (group 2)
Partisan Media and Heterogeneous Discussion (Group 5)	YES	NO	YES	Hypothesis 5a: Moderate relative to those only exposed to partisan media (group 1) Hypothesis 5b: Polarize relative to those who only engage in heterogeneous discussions (group 3)

Table 1: Scenarios and Hypotheses

Condition Number/Name	Individual's exposure	Discussion Group Mix	Others in the Discussion Group Watched ⁺
No Partisan Media Exposure, No Discussion (Group 0)			
1. No/No (Control)	None	None	N/A
Partisan Media Exposure Only (Group 1)			
2. Same-Party Media, No Discussion	Same-Party	None	N/A
3. Out-Party Media, No Discussion	Out-Party	None	N/A
4. Media Choice, No Discussion	Choice	None	N/A
Homogeneous Discussion Only (Group 2)			
5. No Media, Homogeneous Discussion	None	Homogeneous	Same-Party
6. No Media, Homogeneous Discussion	None	Homogeneous	Out-Party
7. No Media, Homogeneous Discussion	None	Homogeneous	Media Choice
Heterogeneous Discussion Only (Group 3)			
8. No Media, Heterogeneous Discussion	None	Heterogeneous	Same-Party
9. No Media, Heterogeneous Discussion	None	Heterogeneous	Out-Party
10. No Media, Heterogeneous Discussion	None	Heterogeneous	Media Choice
Homogeneous Discussion + Exposure (Group 4)			
11. Same-Party Media, Homogeneous Discussion	Same-Party	Homogeneous	None
12. Out-Party Media, Homogeneous Discussion	Out-Party	Homogeneous	None
13. Media Choice, Homogeneous Discussion	Media Choice	Homogeneous	None
Heterogeneous Discussion + Exposure (Group 5)			
14. Same-Party Media, Heterogeneous Discussion	Same-Party	Heterogeneous	None
15. Out-Party Media, Heterogeneous Discussion	Out-Party	Heterogeneous	None
16. Media Choice, Heterogeneous Discussion	Media Choice	Heterogeneous	None

Table 2: Summary of Conditions

Note: Cell entries give the name of each condition, what group they correspond to (see Table 1 or Figure 1) what political video stimuli subjects watched (if any), the type of deliberation (if any), and what others in their group watched.

⁺ Recall that in every discussion group, one-half of the individuals were exposed to partisan media, and one-half were not.

	(1)	(2)	(3)
	Media Exposure Only	Two-Stage Effects	Discussion/ Exposure Interaction
Same-Party Media	0.649** (0.250)		
Out-Party Media	0.965*** (0.241)		
Media Choice	0.990*** (0.237)		
Media Exposure		0.881*** (0.236)	0.881*** (0.236)
Homogeneous Discussion		1.743*** (0.195)	1.743*** (0.195)
Media Exposure*Homogeneous Discussion			-0.777*** (0.266)
Heterogeneous Discussion		0.420** (0.211)	0.420** (0.211)
Media Exposure*Heterogeneous Discussion			-0.734*** (0.280)
Constant	4.146*** (0.167)	4.146*** (0.170)	4.146*** (0.170)
Observations	120	283	481
R-squared	0.163	0.282	0.292

Table 3: Effects of Partisan Media Exposure, Discussion, and their Interaction

Note: Cell entries are OLS regression coefficients, with associated standard errors in parentheses. Coefficients that can be distinguished from 0 at conventional levels of statistical significance are denoted by: *** $p < 0.01$, ** $p < 0.05$.

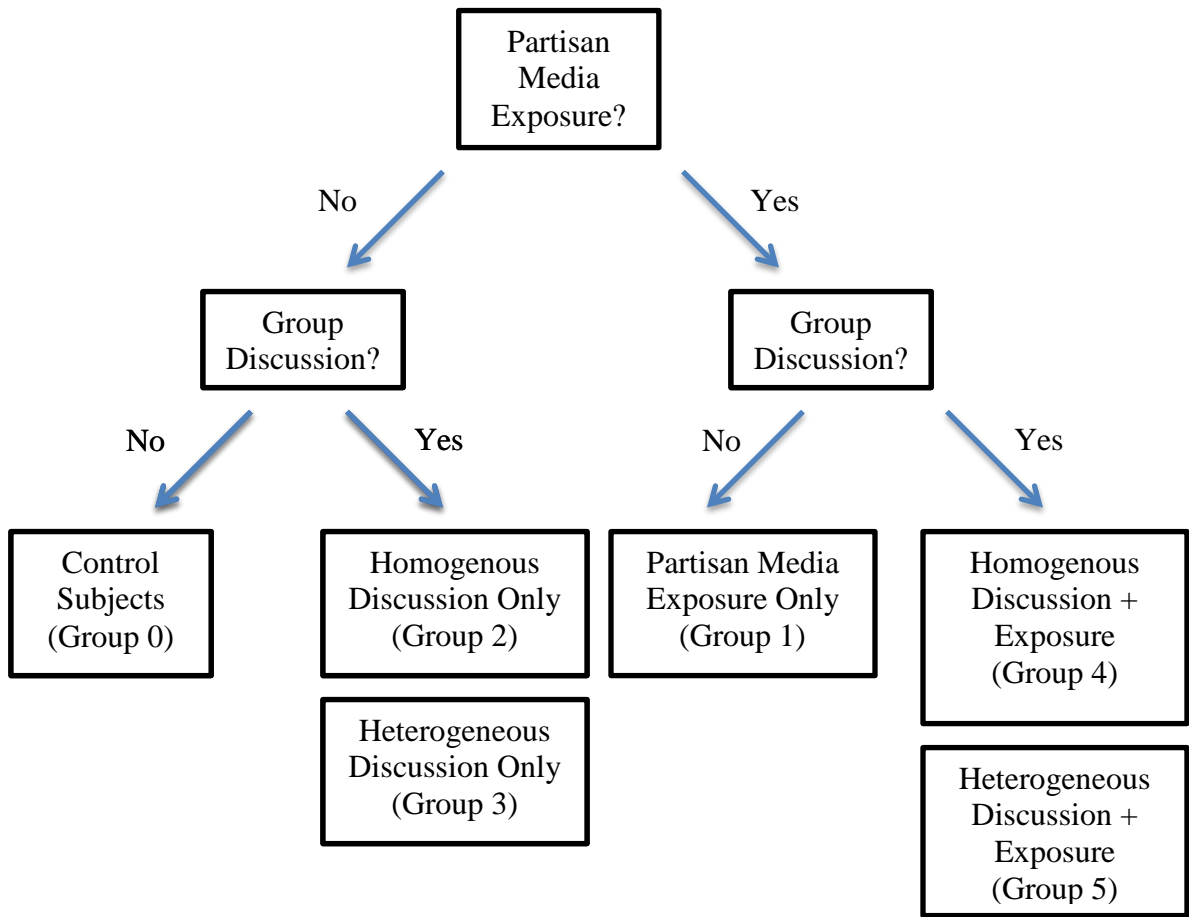


Figure 1: Flow Chart of Assignment to Experimental Groups

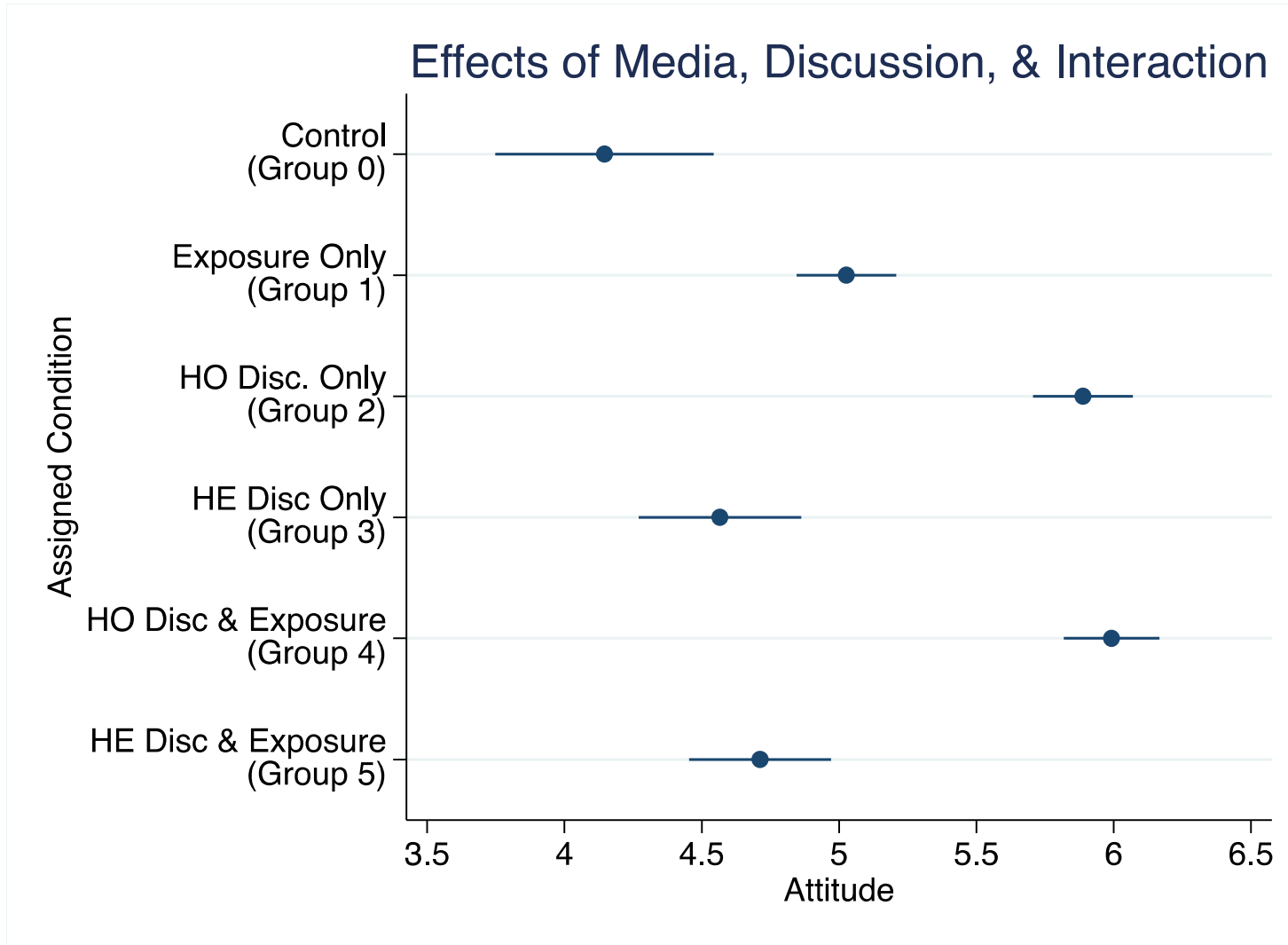


Figure 2: Effects of Partisan Media Exposure, Discussion, and their Interaction

Note: Points are mean levels of (folded) support in each condition, with 95% confidence intervals indicated by the small lines.