Human Communication Research 0360-3989

ORIGINAL RESEARCH

Interpersonal Discussion and Political Knowledge: Unpacking the Black Box via a Combined Experimental and Content-Analytic Approach

Ryan C. Moore [1], **Jason C. Coronel** [2]

1 Department of Communication, Stanford University, Stanford, CA 94305, USA
2 School of Communication, The Ohio State University, Columbus, OH 43210, USA

Over 130 studies have examined the relationship between interpersonal political discussion and political knowledge, generally finding that discussion can increase people's level of political knowledge (Amsalem & Nir, 2019). However, two important questions remain unanswered: (a) Do some types of political discussions facilitate greater levels of political knowledge than others? (b) Do people retain knowledge gained from political discussions? In this study (N = 96), we addressed these questions using a novel methodological approach that combines a lab experiment, in which we manipulated the occurrence of political discussion, with a systematic content analysis of participants' discussions (N = 1,080 distinct instances of discussions). We found that discussions involving confirmatory feedback and cueing were associated with greater levels of political knowledge than other types of discussions. Furthermore, knowledge gains from discussion were not retained after a short delay. Our study lays the theoretical and methodological groundwork for future investigations into the "black box" of political discussion.

Keywords: Political Knowledge, Interpersonal Discussion, Experiment, Memory

https://doi.org/10.1093/hcr/hqac002

Barber (1984) wrote, "at the heart of strong democracy is talk." Indeed, normative theorists have long viewed interpersonal discussion about politics and public affairs as critical to the health and vitality of a democracy (Dewey, 1927; Mill, 1861).

Some of the most important evidence used to support this claim has come from studies showing that interpersonal discussions can improve people's knowledge about politics (over 130 independent studies have examined this relationship; for a review, see Amsalem & Nir, 2019). Although political knowledge can have many meanings, we define political knowledge here as factually accurate information

Corresponding author: Ryan C. Moore; e-mail: rymoore@stanford.edu

about politics that people can retrieve from memory (Delli Carpini & Keeter, 1996; Luskin, 1987).

Why would discussion increase political knowledge? Political communication scholars have theorized that discussions can improve people's ability to possess accurate political information because discussion partners can correct inaccurate information (Amsalem & Nir, 2019; Eveland & Thomson, 2006; Mill, 1861) and supply accurate information to individuals who have forgotten political facts they previously learned (Carlson, 2019; Scheufele, 2002). Furthermore, discussions are thought to improve people's ability to remember political information because the mere act of speaking aloud information to another person enhances its retention in memory (Eveland, 2004; Hirst & Echterhoff, 2011). Surprisingly, despite the abundance of work examining the relationship between discussion and political knowledge, two important questions remain largely unanswered.

First, do some types of political discussions lead individuals to possess higher levels of accurate political information than other types of discussions? Individuals engage in different types of political discussion in their everyday lives. For example, discussions about politics can involve individuals arguing over facts or, conversely, instances in which people are in full agreement over the facts. As we discuss in a later section, there are reasons to believe that some types of discussions may be more effective at improving people's ability to possess accurate political information than others. This is an important question to answer because the literature has largely assumed that political discussions will improve people's ability to possess accurate political information without examining either (a) the frequency at which different discussion types occur or (b) differences across discussion types in enhancing people's ability to possess accurate political information (Eveland, Morey, & Hutchens, 2011; Southwell & Yzer, 2007, 2009).

Second, do political discussions improve people's ability to retain political information in memory? Discussion about politics may help individuals possess accurate political information, but this information might not persist after discussion has transpired (e.g., people may forget information). Indeed, scholars have observed short-lived information effects in other areas in political communication research (Gerber, Gimpel, Green, & Shaw, 2011; Lecheler & de Vreese, 2011). This question is important to answer because discussion may be most impactful if it also improves people's ability to accurately remember political information beyond the context of the discussion (e.g., while making decisions in the voting booth).

We address these questions in the context of individuals jointly remembering political information to which they were previously exposed. As we elaborate below, political discussions have often been thought of in terms of having singular overarching goals (e.g., entertainment; de Tarde, 1901; Kim, Wyatt, & Katz, 1999) and scholars may view conversations as one task individuals use to achieve a singular goal. Here, we build on prior work suggesting that people have multiple goals for and that arise during conversations (O'Keefe, 1988; Tracy, Craig, Smith, & Spisak, 1984; Tracy & Coupland, 1990). To work toward those multiple goals, people can

engage in conversational subtasks over the course of a discussion. For example, if people have competing memories about a particular piece of factual information, they may work together to jointly remember the information to achieve the goal of recalling it accurately (Barnier, Harris, Morris, & Savage, 2018; Hirst & Stone, 2017; Meade, Harris, Bergen, Sutton, & Barnier, 2017; Vredeveldt, Groen, Ampt, & van Koppen, 2017; Vredeveldt, Hildebrandt, & van Koppen, 2016,). In this case, joint remembering of information is an example of a conversational subtask. People may have other goals which they pursue through conversational subtasks, such as pursuing the goal of persuading someone to change their mind about an issue by delivering a persuasive appeal to them (Baek & Falk, 2018; Delia, Kline, & Burleson, 1979; Thorson, 2014) or pursuing the goal of getting someone to like them by paying them compliments (Bell & Daly, 1984; Clark, 1979). We focus on the conversational subtask of discussants jointly remembering political information given that people often remember facts and events with others in their everyday lives (Harris, Barnier, Sutton, & Keil, 2014; Meade et al., 2017). Furthermore, joint remembering of political facts involves discussants working toward possessing accurate political information—the core ingredient of political knowledge (Delli Carpini & Keeter, 1996).

Our research design is unique as it combines an experimental and a content-analytic approach. In our study, individuals first learned about diverse politically relevant facts (i.e., issues positions of candidates, policy-related facts such as the number of Mexican immigrants residing in United States). Then, we randomly assigned participants to one of two conditions. In the first condition, we asked participants to remember the political facts they learned by working alone. In the second condition, however, we asked participants to remember the political facts while working with another participant. Specifically, participants in the second condition had a discussion to jointly remember the political information to which they were previously exposed.

Critically, in the second condition, we recorded all the participants' discussions and performed content analyses of them to classify them into one of five theoretically informed discussion types. This feature of our design allowed us to determine both the frequency at which different discussion types occurred and the extent to which some types of discussions improved people's ability to remember accurate political information more so than other discussion types. In addition, we asked individuals in the first condition, after working alone (time 1), to work together (time 2), and then to again remember the political facts they learned by working alone (time 3). This repeated-measures feature of our design allowed us to examine if political discussion improved people's ability to remember political facts shortly after discussion had transpired.

Our research design is unique in several important ways. The preponderance of studies on discussion and political knowledge do not experimentally manipulate discussion but instead rely on individuals self-reporting how often they talked about politics with others (for a review, see Amsalem & Nir, 2019). Although important,

these observational studies are limited in their capacity to establish cause and effect relationships. For example, in these research designs, it is difficult to rule out the alternative explanation that individuals who possess high levels of political knowledge may be more likely to engage in political discussions than those who are low in political knowledge. Therefore, converging evidence from experimental studies is especially critical (for the few experimental studies in the literature, see Eveland & Schmitt, 2015; Lenart, 1994; Vercellotti & Matto, 2016).

Furthermore, in contrast to the vast majority of studies in the literature, our study examined people's *actual* political discussions (for another example, see Eveland & Schmitt, 2015) instead of relying on people's self-reported assessments. Most studies on discussion and knowledge rely on retrospective self-report questions such as, "In the past 6 months, how often have you talked about politics with friends?" (to measure discussion frequency; Eveland & Thomson, 2006), "When you discuss politics with [discussant], do you disagree often, sometimes, rarely, or never?" (to measure the occurrence of disagreement during discussion; Mutz, 2002a), and "In the past week, have you talked to any people and tried to show them why they should vote for or against one of the presidential candidates?" (to measure persuasion attempts; Thorson, 2014). In addition, the repeated-measures feature of our design allows us to examine whether political discussions have short-term effects on the retention of political knowledge (for other studies, see de Vreese & Boomgaarden, 2006; Eveland, Hayes, Shah, & Kwak, 2005; Eveland & Thomson, 2006).

We make two key substantive contributions to the literature on discussion and political knowledge. First, we show that some types of discussions are associated with a better ability to accurately remember political information compared to other types of discussions. Specifically, we found that discussions in which individuals provided confirmatory feedback to their discussion partners (e.g., "You're exactly right," "I remember it that way too") were associated with the best memory performance compared to all other discussion types. This confirmatory feedback is often considered in the psychology literature as a type of discussion which can facilitate accurate memory for information (Thorley & Kumar, 2017; Vredeveldt et al., 2016, 2017). Additionally, confirmatory feedback is similar to a discussion type considered in the political communication literature: agreement (Morey, Eveland, & Hutchens, 2012; Mutz, 2006; Osborn & Morehouse Mendez, 2011; Song & Boomgaarden, 2019). But, less work has focused on this discussion type compared to others (e.g., presence of disagreement). This finding suggests that scholars who study political knowledge should devote greater attention to instances of confirmatory feedback/agreement in political discussions as they may be especially likely to contribute to individuals possessing more accurate political knowledge.

In addition, previous research has devoted greater attention to studying the incidence or frequency of political discussion rather than distinct *types* of political discussion (Amsalem & Nir, 2019; Gil de Zúñiga, Valenzuela, & Weeks, 2016). There is work examining how different discussion types (e.g., disagreement, persuasion

attempts, discussions which vary in the diversity of views expressed) influence political participation (e.g., Guidetti, Cavazza, & Graziani, 2016; Klofstad, Sokhey, & McClurg, 2013; Lupton & Thornton, 2017; Matthes, Knoll, Valenzuela, Hopmann, & Von Sikorski, 2019; McClurg, 2006; Mutz, 2002a; Nir, 2011; Scheufele, Nisbet, Brossard, & Nisbet, 2006), political attitudes (e.g., Huckfeldt, Johnson, & Sprague, 2004; Huckfeldt, Mendez, & Osborn, 2004; Kim, 2015; Pattie & Johnston, 2008), and political knowledge (e.g., Eveland & Hively, 2009; Eveland & Schmitt, 2015; Feldman & Price, 2008; Gastil & Dillard, 1999; Lee, 2009; Scheufele, Nisbet, Brossard, & Nisbet, 2004; Testa, Hibbing, & Ritchie, 2014; Thorson, 2014).[1] However, this work has tended to focus on only a few political discussion types (namely disagreement/agreement). Our study introduces additional politically relevant discussion types that future work on political discussion types should consider, including ones from psychology (e.g., cueing; Meudell, Hitch, & Boyle, 1995; Wegner, Giuliano, & Hertel, 1985).

Second, within the context of an experimental study in which we manipulated the occurrence of discussion, we show that political discussion may not improve the retention of political information even after a very short delay (10 minutes). This finding compels further theoretical and empirical investigations into when and how political discussion may lead to the retention of political information. For example, other factors often captured by observational studies on discussion and political knowledge (but not captured in our experimental study; e.g., self-selection of discussion partners, multiple instances of discussion; Huckfeldt & Sprague, 1995; Jacobs, Lomax Cook, & Delli Carpini, 2009; Mutz, 2006) may moderate discussion's effects on the retention of political knowledge.

Our discussion proceeds as follows. First, we explain why joint remembering of political facts is a pervasive and important context in which to study the effects of discussion on political knowledge. Then, we theorize how different discussion types can have a positive influence on political knowledge. We then describe the design of and present results from our study in which dyads were exposed to political facts and then asked to recall them, either alone or with the help of another person. Finally, we close with a discussion of our study's implications for the literature on political discussion and knowledge.

Joint remembering of political facts as a conversational subtask

Political communication scholars often conceptualize individuals as having some overarching goal when they initiate a discussion with another person (e.g., for enjoyment; de Tarde, 1901; Kim et al., 1999). Thus, political discussion can typically be viewed as one monolithic task to achieve one overarching goal. However, it is important to recognize that people can possess multiple goals during a discussion, and, to work toward those goals, different conversational subtasks can emerge over the course of a discussion (O'Keefe, 1988; Tracy et al., 1984; Tracy & Coupland, 1990). For example, discussants may need to jointly remember factual information

if they are unsure about their memories of a relevant fact and want to remember the information accurately (Barnier et al., 2018; Hirst & Stone, 2017; Meade et al., 2017; Vredeveldt et al., 2016, 2017), one person may pay their discussant compliments if they want their discussant to like them (Bell & Daly, 1984; Clark, 1979), or someone may change the topic of conversation if they grow tired of the current topic and want to talk about something else (Maynard, 1980; Okamoto & Smith-Lovin, 2001; Planalp & Tracy, 1980).

To illustrate, consider the real-world example of a family engaging in a discussion to decide whether they should all engage in social distancing at an upcoming indoor gathering during the COVID-19 (coronavirus disease of 2019) era (the overarching goal). Over the course of conversation, different family members may possess conflicting memories of the most updated health recommendations from public health officials. The group can then engage in joint remembering to achieve the goal of determining which health recommendation is the most accurate one. During the discussion, several family members could lament about how the issue of COVID-19 has been politicized. Other family members may grow tired of this topic and thus work toward steering the discussion back to current health recommendations. Thus, although the conversation was initiated with an overarching goal in mind (deciding on whether to engage in social distancing), different goals and corresponding subtasks emerge over the course of discussion (e.g., joint remembering, changing topic of conversation).

In the present investigation, we argue that one important conversational subtask is joint remembering of political facts. Generally, people often remember facts and events with others (Harris et al., 2014; Meade et al., 2017) and researchers have suggested that joint remembering's role in political discourse should be a greater focus of study (Congleton & Rajaram, 2011; Rajaram & Pereira-Pasarin, 2010). Indeed, joint remembering of political information likely occurs frequently in everyday life and may be part of a significant amount of discussions about politics.[2] For example, friends discussing an upcoming election might work together to remember important logistical information such as when, where, and how to cast their votes. A couple trying to decide if and how much they would like to jointly contribute in monetary donations to a political candidate may jointly recall specific pieces of information about that candidate (e.g., their stances on personally relevant issues) in order to inform their decision. Even in more "charged" discussion contexts such as instances in which one person is trying to persuade another to adopt their view on, for instance, a particular political candidate, over the course of that persuasive attempt there are likely instances in which discussants will work together to remember factual information (e.g., that candidate's credentials, prior policy decisions in previously held political offices, current issue positions) to use in their broader discussion. Because it is likely prevalent in everyday political discussion and because it explicitly relates to people attempting to possess accurate political facts—the core ingredient in our outcome of interest, political knowledge (Delli Carpini & Keeter, 1996)—we focus on the context of joint remembering in our study.

Discussion types and possessing accurate political information

People are exposed to various types of political facts in their everyday lives from various sources such as campaigns, news media, and the Internet. For example, a campaign may run advertisements highlighting a political candidate's policy positions or those positions may be discussed during an interview with that candidate on a news program. Furthermore, individuals may see content on social networking sites highlighting pertinent numerical facts related to public policy, such as unemployment numbers, immigration statistics, or public opinion data about the level of support for policies or candidates. These types of political information such as candidate issue positions or beliefs about economic and immigration statistics are important because people use this information to inform their voting decisions (Gooch & Huber, 2020) and attitudes toward public policies (Lawrence & Sides, 2014; Velez et al., 2018).

However, despite exposure to accurate political facts, memory is imperfect and this can prevent people from possessing accurate political information. Indeed, previous work has shown that people often forget important political facts (Lau & Redlawsk, 2006; Lodge, McGraw, & Stroh, 1989; Lodge, Steenbergen, & Brau, 1995). In addition, people's preexisting biases and stereotypes may lead people to misremember political information (e.g., despite exposure to accurate information that the number of Mexican immigrants is decreasing, people misremember it as increasing; Coronel, Poulsen, & Sweitzer, 2020).

But, can discussion help individuals possess accurate political information despite the occurrence of forgetting and misremembering? Scholars in both the field of political communication and psychology have identified several discussion types which may improve people's ability to remember, and therefore possess, accurate information.

In political communication, researchers have advanced distinct discussion types that we refer to as *scrutinizing* (Amsalem & Nir, 2019; Eveland & Thomson, 2006; Mill, 1861) and *memory-refreshing* (Carlson, 2019; Scheufele, 2002). In psychology, scholars have proposed different discussion types that we label as *cueing* (Meudell et al., 1995; Wegner et al., 1985), *confirmatory feedback* (Thorley & Kumar, 2017; Vredeveldt et al., 2016, 2017), and *compromising* (Scoboria & Henkel, 2020). Although psychologists have yet to examine these discussion types in the domain of politics, we argue that they may also occur in the context of political discussions. Below, we discuss each of these discussion types.

The *scrutinizing* discussion type contends that political discussion can provide an opportunity for people to have their inaccurate knowledge about an issue or event scrutinized and corrected by their discussion partner (Amsalem & Nir, 2019; Eveland & Thomson, 2006; Mill, 1861). For example, while discussing the issue of immigration, one individual may state that they favor the United States to have stricter immigration policies because the number of immigrants from Mexico has been increasing in recent years (the incorrect information). Their discussion partner

could then interject that the number of immigrants from Mexico residing in United States has actually decreased over that time period (the correct information). In this case, one discussion partner scrutinizes the accuracy of the information remembered by the other, and corrects the inaccurate information (number of Mexican immigrants increasing) with accurate information (number of Mexican immigrants decreasing). Scrutinizing may fall under the conceptualization of political disagreement prominent in past work on political discussions (Huckfeldt, Johnson, et al., 2004), but specifies a more distinct process by which one individual corrects another regarding the accuracy of a piece of factual information, rather than disagreeing on views toward a political issue. Research on disagreement's relation to political knowledge suggests that exposure to disagreement is associated with higher levels of political knowledge (Gastil & Dillard, 1999; Scheufele et al., 2004). If one views scrutinizing as a form of disagreement, one would expect a positive relationship between scrutinizing and political knowledge.

Another prominent discussion type in the political communication literature is *memory-refreshing* (Carlson, 2019; Scheufele, 2002). This can occur when one of the discussion partners has no memory of political information to which they were previously exposed. This can be due to individuals either not paying attention to incoming political information or because the information has completely decayed in memory. In these instances, other discussion partners can directly provide the forgotten political information. For example, one person may have previously encountered information about the American public's level of support for same-sex marriage but has completely forgotten that information. When discussing the issue with another person, the other person may bring up that particular figure, thereby "refreshing the memory" of their discussion partner, who, without this supplied information, would have forgotten that fact.

A distinct discussion type in the psychology literature is *cueing* (Meudell et al., 1995; Wegner et al., 1985). Cueing suggests that, during discussion, individuals may state pieces of information aloud that cause their discussion partner to remember a conceptually related piece of information. This explanation is likely relevant in the political domain, where information is often organized by highly related conceptual associations (e.g., issue positions associated with political parties; Lodge & Hamill, 1986). For example, during discussion, one person may recall aloud the issue position of a democratic candidate for public office (e.g., "I remember hearing that Candidate X supports raising the minimum wage"). This stated issue position, because of its clear association with the Democratic Party, may provide a cue to the discussion partner to retrieve another, related piece of information about the candidate, such as another stereotypically Democratic policy position (e.g., "Oh right, I also remember that Candidate X supports increasing funding for welfare programs"). Previous work showing that political discussion can help individuals build knowledge structure density, a measure of the interconnections between political issues and actors, provides some initial support for the idea that cueing may indeed play an important role in political discussions (Eveland, Marton, & Seo, 2004).

Another discussion type prevalent in the psychology literature on interpersonal discussion and knowledge is referred to as *confirmatory feedback* (Thorley & Kumar, 2017; Vredeveldt et al., 2016, 2017). Confirmatory feedback posits that when individuals discuss information, they often give one another positive verbal cues such as "oh yeah, I did hear that" or "that's exactly right," which instill greater confidence in the individual who initially stated the information that it is indeed accurate. For example, one person discussing a political candidate might say, "I know Candidate Y is pro-life," to which their discussion partner could reply, "Yes, I definitely know that's true about Candidate Y." Confirmatory feedback could be thought of as a form of political agreement as it has been conceptualized in past work in political communication (Morey et al., 2012; Mutz, 2006; Osborn & Morehouse Mendez, 2011; Song & Boomgaarden, 2019).[3]

A final discussion type from work in psychology is *compromising* (Scoboria & Henkel, 2020). Compromising suggests that when discussing information, individuals may disagree, but individuals may seek a compromise on information to which they cannot come to an agreement. If individuals' distinct biases lead them to misremember facts in opposing directions, compromising their beliefs about that fact may lead to a more accurate conclusion about that fact. For instance, a Democrat may misremember that the number of undocumented immigrants residing in United States is lower than it actually is while a Republican may misremember that the number is higher than it actually is, as those respective misrememberings may be consistent with those individuals' preexisting biases. If those individuals, during a discussion about immigration, are engaged in a compromising process whereby they agreed upon a number of undocumented immigrants residing in United States that lied somewhere in between their respective misremembered numbers (one being lesser than the true value and the other being greater), they may land on a more accurate estimate than either of their initially recalled numbers.

These explanations from work in political communication and in psychology converge on the same prediction: engaging in discussion will increase people's ability to possess accurate political information. Formally, we postulate the following hypothesis:

> H1: Individuals who engage in political discussion will possess accurate political information more so than individuals who do not engage in political discussion.

However, despite ample theorizing about what occurs during discussion to explain why interpersonal discussions may enhance people's ability to possess accurate political information, few studies have examined *what* occurs during interpersonal discussions. Specifically, we know very little about the frequency at which different discussion types occur and the extent to which different types of discussion are associated with different levels of political knowledge among discussants. Rather, the occurrence of these discussion types and their effects on political knowledge has largely been assumed.

Knowing how different types of discussions about politics are related to the likelihood that individuals possess accurate political information is critical to understanding the conditions under which interpersonal discussion can increase political knowledge. Therefore, we ask the following research question:

RQ1: Do different types of political discussions lead individuals to possess differing levels of accurate political information?

Political discussion and the retention of political information

An important question regarding the relationship between interpersonal discussion and political knowledge is whether discussions can increase people's ability to *retain* political information. This is a critical question to answer because even if, for example, people's inaccurate political facts are corrected over the course of a discussion, it is important to know if people remember the accurate political information after the discussion has transpired. This is important because politically consequential decisions (voting on candidates and policies, convincing others to adopt certain political attitudes) are often based on political information that they must retrieve from memory (Lau & Redlawsk, 2006; Zaller, 1992).

Although discussion may increase people's ability to possess accurate political information, do discussants retain the political information learned during discussion? Previous empirical work has been limited in its ability to examine this question due to methodological limitations. The preponderance of studies on interpersonal discussion and political knowledge are cross-sectional, meaning that political discussion (typically measured through questions such as "how often do you discuss politics with others in a typical week?" or "with how many other people do you discuss politics with in a typical week?") and political knowledge are measured at the same point in time, limiting researchers' ability to trace how political discussion relates to political knowledge *after* discussion.

Some studies have made use of panel designs to measure discussion at time 1 and political knowledge at time 2 (e.g., Eveland et al., 2005). Although valuable, these studies are nonexperimental and do not manipulate the incidence of political discussion. As a consequence, it is difficult for these studies to isolate whether the retention of political information was due to political discussion or to other sources in the environment (e.g., television news, social media).

There are theoretical reasons to believe that political discussion can facilitate the retention of political information. During discussion, individuals have to retrieve information from memory and then repeat that information verbally, which strengthens and crystallizes that information in memory (Eveland, 2004; Hirst & Echterhoff, 2011).

However, there are also reasons to believe that political discussion may not facilitate retention of political information in memory. Information can simply be forgotten. Forgetting can occur because information has degraded from memory

(Baddeley, 1998) or because individuals did not pay sufficient attention to information when they were first exposed to it (Craik & Tulving, 1976).

Indeed, in other domains, the effects of many political communication phenomena have been found to be short-lived, such as political advertisements (Gerber et al., 2011), television news programs (Mutz & Reeves, 2005), and publicizing efforts for government data (Barabas & Jerit, 2010). But, relatively few studies in general assess whether or not political communication effects persist over time (Hill, Lo, Vavreck, & Zaller, 2013; Mitchell, 2012).

In summary, little work has examined whether or not the effects of political discussion on the retention of political information in memory are ephemeral. We therefore ask the following research question:

RQ2: Does political discussion enhance the retention of political information?

Methods

Participants

We recruited a total of 104 participants from a large public Midwestern university in United States and the surrounding community. All participants were compensated with $15 for taking part in the study. Eight participants were excluded due to technical issues (e.g., errors in stimuli presentation). We analyzed data from the remaining 96 participants (50% female; Age mean [M] = 23.3 years; standard deviation [SD] = 5.1 years, range = 19–48 years; 69% identify as Democrats, 31% as Republicans[4]).

Based on data from previous studies, we conducted a priori power analyses and determined that with this number of participants we are sufficiently powered to detect H1 and RQ2. Additionally, analyzing across different parts of our study design in such a way that increased statistical power yielded substantively similar results to the analyses presented in the Results section below (see Supporting Materials).

Materials

We used two types of stimuli: (a) photos of political candidates paired with their issue positions and (b) short paragraphs of text that contained politically relevant numerical facts. We used these types of stimuli for three reasons. First, candidates' issue positions are prominent in the media environment and have been shown to be important to voter decision-making (Drew & Weaver, 2006; Gooch & Huber, 2020). Second, numerical facts are frequently encountered in the political domain (e.g., immigration numbers, economic statistics), and it is important for voters to possess accurate knowledge of them as perceptions of such quantities can influence policy preferences (Lawrence & Sides, 2014; Velez et al., 2018). Third, using stimuli which present different formats of political information (descriptive vs. numerical)

allowed us to examine the extent to which discussion's capacity to facilitate increases in political knowledge generalize across different types of information.

The candidate and issue position pairs included 8 policy positions for 4 fictitious candidates (2 Republicans and 2 Democrats), for a total of 32 issue positions, all of which were of critical interest to the study (Supporting Materials). Issue positions (e.g., "wants to increase the minimum wage") were created such that they were all stereotypically associated with either the Republican or Democratic Party and varied equally across candidates in their phrasing (e.g., support, oppose, voted for, voted against). The four candidates were represented by four photos of white males taken from publicly available websites (Supporting Materials). We used white male individuals given that elected officials in United States are predominantly white and male (Lardieri, 2017). The photos depicted individuals who looked like realistic political candidates (e.g., all were wearing suits).

The short paragraphs included eight short paragraphs which contained information that could have been encountered as a short news story on a social media website (e.g., Twitter) or on a blog (Supporting Materials). Four of the paragraphs were our critical stimuli and each of those four stories contained two pieces of politically relevant numerical information (e.g., the number of Mexican immigrants living in United States in 2007 and in 2014). We also created four other paragraphs that served as distractors.

We constructed the stimuli using information from actual news stories and they contained factually accurate numerical information in four issue domains: same-sex marriage, preference for male/female bosses, immigration, and police shootings. Specifically, public opinion polls indicate that more Americans support than oppose same-sex marriage (Doherty, Kiley, & Weisel, 2015). More Americans, according to survey data, prefer a male than a female boss (Newport, 2011; Riffkin, 2014). On the issue of immigration, the actual number of Mexican immigrants decreased between 2007 and 2014 (Gonzalez-Barrera, 2015). In terms of absolute numbers, more white than black individuals have been killed by police in 2016 (The Washington Post, 2016; although as a proportion of each group's population, black individuals are disproportionately killed by police officers compared to white individuals).[5]

Procedure

This study employed a study-test research design (Figure 1). Same-sex[6] pairs of two (i.e., dyads) came into the lab. During the study phase, we told participants that they would be learning about two types of information: the issue positions of political candidates as well as short news stories. They were instructed to pay attention to the issue positions of the candidates and the short news stories as they would be asked questions about them later. We did not tell participants that there would be a memory test. Participants learned this information on laptop computers while sitting across from one another in the same room (i.e., two people—dyads—in the same room). The order with which they learned the information was

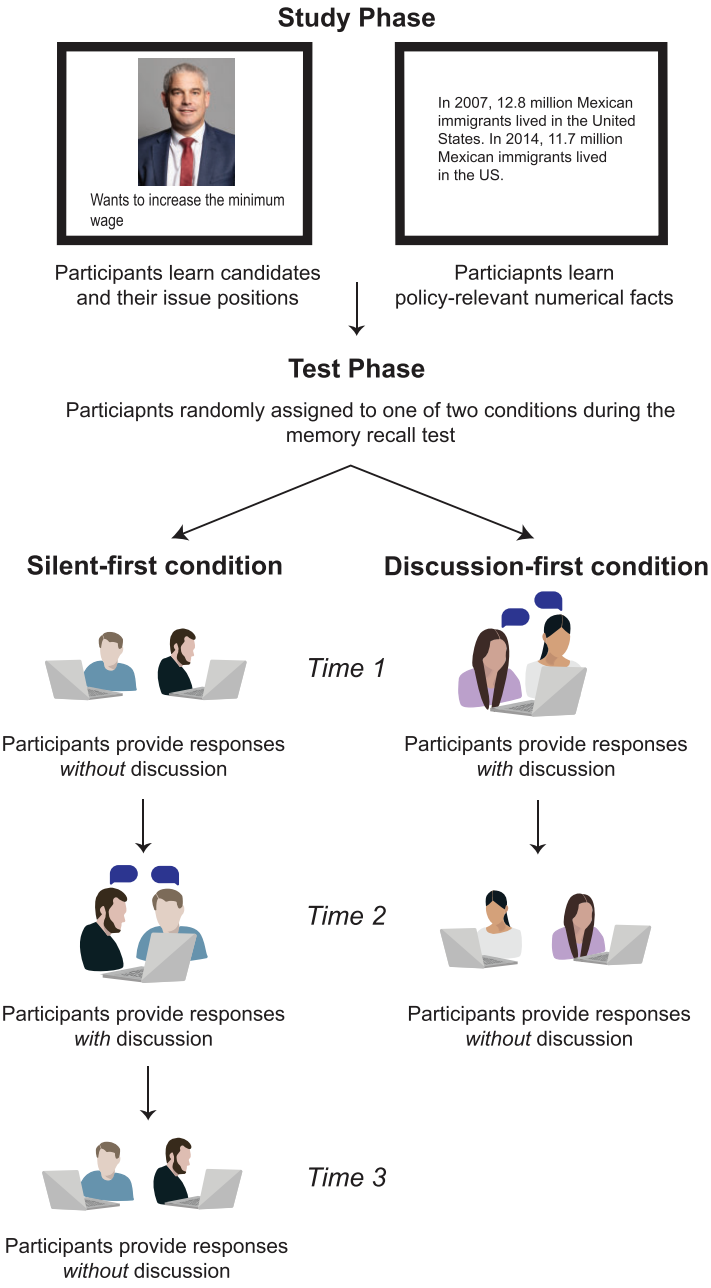

Figure 1 Schematic of study design. The attribution for the image can be found in the References (Townshend, 2020).

counterbalanced (i.e., in half of the trials, dyads first learned about the candidate issue positions, while in the other half of the trials, dyads first learned about the short news stories).

The test phase followed next. At the outset of the test phase, we randomly assigned a dyad to one of the two conditions: the *silent-first condition* or the *discussion-first condition*. In both conditions, participants were given a free-recall memory test in which they were asked to write down from memory information they were exposed to during the study phase.[7] In the *silent-first condition*, the individuals took these memory tests separately, without the ability to discuss with one another (i.e., each participant in a dyad wrote down what they remembered separately, without any opportunity for discussing responses).

In contrast, in the *discussion-first condition*, the dyads took the memory tests collaboratively, in which they were instructed to discuss their responses with one another during the memory test. In other words, the individuals remembered the information together by engaging in discussion and took the tests together (i.e., we obtained memory responses for the dyad as a unit as opposed to responses from each individual in the dyad). Similar to previous work in psychology (e.g., Blumen & Rajaram, 2009; Hinsz, 1990), one of the dyad members was randomly selected to record responses. We obtained audio recordings of all the dyads' discussions during these collaborative discussions.

For the candidate issue positions, we asked participants (in the silent-first and discussion-first conditions) to recall as many of the eight issue positions as they could for each of the four candidates. Specifically, they were presented with a photo of each of the candidates, one at a time, and were given eight blank boxes to record as many of the issue positions associated with each candidate as they could remember. Participants had a total of two minutes to write down as many of the eight issue positions for a given candidate as they could remember.

For the short paragraphs, we asked participants (in the silent-first and discussion-first conditions) about each of the four critical news stories they learned about during the study phase. They were not asked to reproduce the entire post from memory, but instead were only asked to recall the numerical values from each news story (Supporting Materials). For example, for the immigration story, participants were asked the following pair of questions: "According to one of the blog posts, how many Mexican immigrants lived in the United States in 2007?," "According to one of the blog posts, how many Mexican immigrants lived in the United States in 2014?" We gave participants 30 seconds to remember and write down the two numerical values for a given news story.

Using these memory tests for political facts as an operationalization for political knowledge has two advantages. First, we asked factual questions about political information to which we know participants were exposed and was the subject of political discussion. This is different from existing work on political discussion and knowledge in which participants are asked about general civics information which people may have never encountered (e.g., "who decides whether a law is constitutional or not?"; see Delli Carpini & Keeter, 1996). Second, knowledge of candidate issue positions and beliefs about politically relevant numerical facts have been shown to be important for voter decision-making and policy preferences (Gooch &

Huber, 2020; Lawrence & Sides, 2014; Velez et al., 2018). By using this measure, we are following other recent work on political knowledge that focuses more on the types of political facts that are more relevant in people's everyday lives (Lupia, 2015).

After these initial memory tests (time 1 memory test), the dyads in both the silent-first and discussion-first conditions were required to take the same memory tests again (time 2 memory test), but in the *opposite* configuration from their initial assignment (Figure 1). For example, dyads in the silent-first condition took the memory test without discussion in the time 1 memory test but could now engage in discussion in the time 2 memory test. Similarly, dyads in the discussion-first condition who took the memory tests collaboratively with discussion in the time 1 memory test then had to take the memory test as solitary individuals (without discussion) in the time 2 memory test.

This feature of our design allowed us to examine the effects of political discussion on people's ability to accurately answer the recall test as a *between-subjects* manipulation (i.e., comparing between individuals in the silent- and discussion-first conditions in the time 1 memory test [see Barber, Rajaram, & Fox, 2012; Vredeveldt, van Deuren, & van Koppen, 2019; Vredeveldt et al., 2017]). In addition, our design also allowed us to examine the effects of political discussion on people's ability to correctly answer the recall test as a *within-subjects* manipulation (i.e., comparing dyads' performance to themselves between the time 1 and time 2 memory tests). We view this feature as a strength of our research design since it allowed us to examine the extent to which our results were robust to different analysis strategies (i.e., comparing between- or within-subjects manipulations).

Finally, individuals in the silent-first condition, after taking the memory tests first as solitary individuals without discussion (time 1 memory test) and for a second time as a collaborative group with discussion (time 2 memory test), took the memory tests again a third, and final time as solitary individuals (time 3 memory test; see Figure 1). This feature of our research design allowed us to examine if political discussion led to retention of political information after a short delay (see next section for a more detailed discussion).

Analytic strategy

Different parts of our experimental design allowed us to examine different hypotheses and research questions. We discuss our analytic strategies below.

Determining whether discussion causes individuals to possess more accurate information (H1)

To test whether individuals who engage in political discussion will be more likely to possess accurate political information than individuals who do not engage in political discussion (H1), we examined whether individuals in the discussion task were more likely to provide accurate responses in the memory test for political facts than

individuals in the silent task. We conducted separate analyses for the between-subjects manipulation and the within-subjects manipulation.

Furthermore, we conducted separate analyses for the candidate issue position and numerical facts. For the candidate issue positions, two independent coders blind to the study hypotheses classified each memory response into one of three categories.

Correct Responses: Issue positions which were presented during the study phase and were paired with the correct candidate during the test phase.

Source Misattributions: Issue positions which were presented during the study phase but were paired with the wrong candidate during the test phase.

Memory Illusions: Issue positions not presented during the study phase.

For the purposes of the analyses presented below, source misattributions and memory illusions fall into the same category of inaccurate memory responses while correct responses represent accurate memory responses.

The two coders first independently coded 14.8% of the recalled issue positions for these three categories and disagreed in 5.1% of trials (Krippendorff's $\alpha = 0.93$). For the cases within this 14.8% in which the coders did not agree, the coders then had a discussion to resolve their disagreements. After establishing high reliability, the two coders each then coded half of the remaining 85.2% of the issue position responses (42.6% each), resulting in the final dataset.

For the recall data on numerical facts, we adopted two conceptualizations of memory accuracy—one "strict" and one "lenient." For the "strict" conception of memory accuracy, we defined a response to be "accurate" if it the number entered by participants during the memory test exactly matched the value initially presented during the study phase (e.g., "11.7" was the only accurate response if the initial value presented was "11.7 million Mexican immigrants").

For the "lenient" conception of memory accuracy, we adopted an approach similar to that utilized by Prior and Lupia (2008) in their specification of "accepted ranges" for responses to open-ended questions about numerical political facts. For each value contained within the news story, we specified an "accepted range" for responses (Supporting Materials). For example, for the "boss" story, any value between 30 and 39 for support for a male boss (inclusive such that 30 and 39 are also counted as accurate) and any value between 20 and 29 for support for a female boss (inclusive). This "lenient" criterion for accuracy captures the fact that participants have memory for a given value (i.e., what they remembered is close to what was presented), but the memory for that value may have been more "gist" as opposed to memory of the precise value.

Determining whether different discussion types lead individuals to possess differing levels of accurate political information (RQ1)

To examine whether different types of political discussions lead individuals to possess differing levels of accurate political information (RQ1), two independent coders

coded for the occurrence of discussion types in discussions that occurred in the study that related to individuals in the discussion tasks trying to remember political information. "Discussion" was operationalized as any conversation between dyad members that related to the recall of a specific fact (a single issue position or a single numerical value from one of the news stories). The discussion types were based on the five discussion types outlined in the theory section:

Scrutinizing: When one person suggests to their discussion partner that they believe their partner's recollection of a political fact is inaccurate and provides what they believe to be the accurate version of that fact.
Example from the data:
Participant A: "Okay. I think he supported a flat-rate tax."
Participant B: "He supported—no, I think I remember he was the one who wanted to increase the taxes for the upper class."
Participant A: "For the upper class?"
Participant B: "Yeah. I thought so. So you said flat rate, but I'm thinking it's increase."
Participant A: "Alright. Alright. Alright."

Memory-refreshing: When one person states that they remember a piece of political information and their discussion partner indicates that they too remember it but only because it was brought up by their partner.

Example from the data:
Participant A: "So he wants to increase the minimum wage?"
Participant B: "Oh right, the minimum wage, yeah."

Cueing: When one person states a piece of remembered political information which then causes their discussion partner to remember a conceptually related piece of information (in the case of our study, this discussion type only applied to the candidate issue positions).
Example from the data:
Participant A: "This guy's like, no the other guy is Ted Cruz, this guy is like, I don't know who he is. This guy is also against tax increases for the wealthy."
Participant B: "He's super—he would be for, yeah, for an anti-flag burning policy."
Participant A: "Oh yeah, yeah."
Participant B: "First Amendment."
Participant A: "Amendment, yeah."

Confirmatory feedback: When one person states a piece of remembered information and their discussion partner replies with confirmatory/affirmative feedback that the stated information is also what they remember.

Example from the data:
Participant A: "This guy wanted a universal tax, I remember that."
Participant B: "Right. Right, right, right ...um, I remember that. I'm extremely sure about that."

Compromising: When two discussion partners have differing recollections of a fact and agree that the accurate version of that fact lies somewhere in between their respective recollections (in the case of our study, this discussion type only applied to the numerical facts).
Example from the data:
Participant A: "Um, opposing [gay marriage]. . .39?"
Participant B: "Uh, I thought it was like 35."
Participant A: "Hmm."
Participant B: "It's, uh, let's go with 37."
Participant A: "Mhmm, sounds good."

Two coders independently coded all discussions produced during the study for these categories. They disagreed in 7% of trials for the issue position discussions (Krippendorff's $\alpha = 0.88$) and in 14.6% of trials for the numerical fact discussions (Krippendorff's $\alpha = 0.69$). For all cases in which the coders disagreed, the coders then had a discussion to resolve their disagreements.

The resulting distribution of discussion types for group-generated issue position memory responses ($N = 724$) was the following: scrutinizing = 5.7%, memory refreshing = 10.9%, confirmatory feedback = 81.6%, and cueing = 1.8%. For group-generated numerical fact memory responses ($N = 356$), the distribution of discussion types was: scrutinizing = 15.5%, memory refreshing = 9%, confirmatory feedback = 73%, compromising = 2.5%.

Each of the discussions was associated either with an accurately or inaccurately remembered piece of political information (candidate issue position or numerical fact). With these data, we could assess the rate at which each discussion type was associated with accurate recall of political facts and therefore get an idea of the relative efficacy (in terms of accurate factual recall) of political discussion types.

Determining whether political discussion enhances the retention of political information (RQ2)

To examine whether political discussion can enhance the retention of political information, we examined individuals in the silent-first condition and their memory performance at three time points: time 1 memory test (silent task), time 2 memory test (discussion task), and time 3 memory test (silent task). If discussion enhances the retention of political information then we expect that (a) memory performance is better in the time 2 memory test (discussion task) than the time 1 memory test (silent task) *and* (b) memory performance in the time 3 memory test (silent task) is better than performance in the time 1 memory test. Better memory performance at

time 2 than at time 1 indicates that individuals experienced an increase in political knowledge when engaging in political discussion. Better memory performance at time 3 than at time 1 suggests that individuals retained the knowledge gains from political discussion at time 2.

Results

Discussion increases the likelihood that individuals possess accurate political information (H1)

To test H1, we estimated several mixed-effects logistic regression models (Supporting Materials).[8] In each model, the dependent variable was coded as "1" if a response was remembered correctly and "0" if a response was remembered incorrectly. The independent variable was "Discussion Task," indicating whether a participant performed the memory test as a discussion task (coded as "1") or a silent task (coded as "0"). Note that these are within-subject analyses (time 1 memory test vs. time 2 memory test; see Figure 1): the same participants' performance was compared when they were in the silent task versus when they were in the discussion task. In each model, participants (either individuals in the case of responses generated by individuals or dyads in the case of responses generated by dyads) and stimuli (each of the four candidates or each of the four short news stories[9]) were modeled as random effects to account for repeated observations within each participant (see Baayen, Davidson, & Bates, 2008).

Regression results are presented in Table S2. Model 1 represents the model for issue positions, Model 2 represents the model for numerical facts considered accurate under the strict accuracy criterion discussed above, and Model 3 represents the model for numerical facts accurate under the lenient accuracy criterion. A positive and significant coefficient on the Discussion Task variable in all three models (Model 1: B = 0.413, standard error [*SE*] = 0.124, $p < .001$; Model 2: B = 0.695, *SE* = 0.259, $p < .01$; Model 3: B = 0.570, *SE* = 0.268, $p < .05$) suggests that dyads possessed greater levels of accurate political information for both candidate issue positions and politically-relevant numerical facts when they discussed the political information with another person compared to individuals when they did not. Those who were able to discuss the information while taking the memory tests remembered an average of 70.6% of issue positions and 42.5% of numerical facts accurately (under the strict accuracy criterion; 85.3% under the lenient accuracy criterion), while those who did not discuss remembered an average of 62.5% of issue positions and 33% of numerical facts accurately (under the strict accuracy criterion; 78.2% under the lenient criterion). These convergent findings support Hypothesis 1. In addition, a between-subjects analysis (comparing participants randomly assigned to the silent-first condition's time 1 memory test vs. the different set of participants assigned to the discussion-first condition's time 1 memory test) yielded substantively similar results (see Supporting Materials).

Different discussion types are associated with differing levels of accurate political information (RQ1)

To answer RQ1, we estimated a series of mixed-effects analysis of variances (ANOVAs). For these models, the dependent variables were either the proportion of (a) correctly remembered candidate issue positions or (b) exactly remembered numerical facts. Discussion Type was the independent variable of interest and had four levels corresponding to the four types of discussions (*for issue positions*: scrutinizing, memory-refreshing, confirmatory feedback, cueing; *for numerical facts*: scrutinizing, memory-refreshing, confirmatory feedback, compromising). Dyads in all models were modeled as random effects. Data for these models came from any part of the design in which individuals were able to discuss information with another person while completing the recall task.

For issue positions, there was a main effect of Discussion Type, $F(3, 94.639) = 4.46$, $p < .01$. Post-hoc Dunnett's comparisons[10] (adjusted for multiple comparisons) revealed that the average proportion of accurately remembered items under cueing (88.9%) was significantly greater than under scrutinizing (55.1%) ($p < .05$) and memory-refreshing (56.3%) ($p = .05$). The average proportion of accurately remembered items under confirmatory feedback (74.3%) was also marginally significantly greater than under scrutinizing ($p = .07$) and memory-refreshing ($p = .07$) (Figure 2a).

For numerical facts, there was also a main effect of Discussion Type, $F(3, 81.362) = 5.14$, $p < .01$. Post-hoc Tukey–Kramer contrasts revealed that the average proportion accurately remembered under confirmatory feedback (51.1%) was significantly greater than under scrutinizing (29.4%) ($p < .05$) and memory-refreshing (26.2%) ($p < .01$) (Figure 2b).

Taken together, the data show that different discussion types were associated with differing abilities for individuals to possess accurate political information. Across both stimuli, discussions falling under the confirmatory feedback account were associated with increased levels of individuals possessing accurate political information relative to other discussion types. Furthermore, for issue positions, discussions involving cueing were associated with the best performance relative to other discussion types.

Political discussion does not enhance retention of political information (RQ2)

To answer RQ2, we estimated two mixed-effects ANOVAs. For these models, the dependent variables were the proportion of (a) correctly remembered candidate issue positions or (b) exactly remembered numerical facts at each of the three time points in the silent-first condition. The main independent variable of interest is Time of memory test in the silent-first condition (time 1-silent task, time 2-discussion task, time 3-silent task). Dyads in all models were modeled as random effects. Data for these models came exclusively from the silent-first condition in the study.

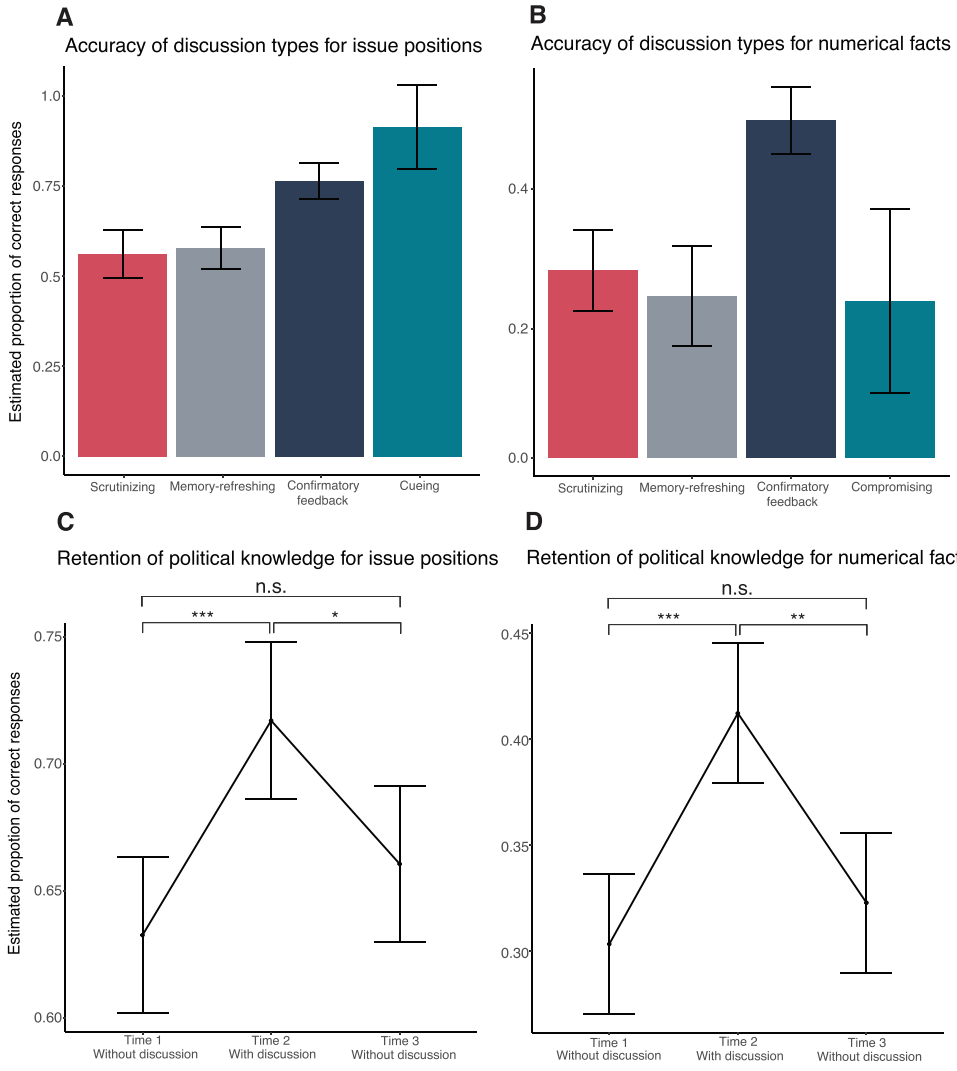

Figure 2 **(a)** For issue positions, confirmatory feedback and cueing showed the best memory performance. (**b)** For numerical facts, confirmatory feedback showed the best memory performance. **(c and d)** For issue positions and numerical facts, discussions increased accurate responses (time 1 vs. time 2) but knowledge gains were not retained even after a short delay (time 1 vs. time 3). Error bars represent standard errors. Values are estimated from the analyses of variances presented in the results section. $^{*}p < .05$, $^{**}p < .01$, $^{***}p < .001$.

For issue positions, the ANOVA showed a main effect of Time, $F(2, 46) = 8.38$, $p < .001$. Tukey contrasts revealed that the estimated proportion of correct responses at time 2-discussion task (71.7%) was significantly greater than that at time 1-silent task (63.3%) ($p < .001$) and time 3-silent task (66.1%) ($p < .05$). There

was no significant difference in the average proportion of correct responses between time 3-silent task and time 1-silent task ($p = .38$) (Figure 2c).

For numerical facts, we found a similar pattern. The ANOVA showed a main effect of Time, $F(2, 46) = 10.49$, $p < .001$. Tukey contrasts revealed that the estimated proportion of exactly correct responses at time 2-discussion task (41.2%) was significantly greater than at time 1-silent task (30.4%) ($p < .001$) and time 3-silent task (32.3%) ($p < .01$), with no significant difference between the proportions at time three3-silent task and time 1-silent task ($p = .72$) (Figure 2d).

Taken together, these results (Figure 2c and d) suggest that during political discussion (time 2), individuals possessed the highest level of accurate political information (across candidate issue positions and numerical facts). But, immediately following political discussion, when individuals were no longer able to discuss political information with others (time 3), memory performance reverted back to levels statistically indistinguishable from those pre-discussion (time 1).[11]

Discussion

Our primary goal was to answer two important open questions in the literature on political discussion and political knowledge: (a) Do some types of political discussions lead individuals to possess higher levels of accurate political information than other types of discussions? (b) Do political discussions improve people's ability to retain political information in memory? Answering the first question is important because it can reveal the conditions under which political discussion is more or less beneficial for political knowledge. Answering the second question is important because it can provide information on whether knowledge gained due to discussion has the potential to influence political behaviors that occur after discussion has transpired.

Using an experimental paradigm, we found support for H1: Individuals who engage in political discussion possessed accurate political information more so than individuals who do not engage in political discussion. Individuals in the discussion tasks were more likely to accurately remember both candidate issue positions and politically relevant numerical facts than those in the silent tasks. This replicates the positive relationship between political discussion and political knowledge in the literature (Amsalem & Nir, 2019). But, through RQ1 and RQ2, we add novel and nuanced insights to this finding.

Do different types of political discussions lead individuals to possess differing levels of accurate political information (RQ1)? We found that different types of political discussions were associated with different levels of political knowledge. Specifically, discussions involving confirmatory feedback and cueing were associated with higher levels of possessing accurate political information compared to other discussion types.

Does political discussion enhance the retention of political information (RQ2)? In our study, we found that individuals did not retain information from political

discussion. While individuals in the silent-first condition did see a significant increase in their level of political knowledge while moving from the silent task (time 1) to the discussion task (time 2), these gains disappeared when those individuals returned to the silent task (time 3)—reverting to levels of knowledge statistically indistinguishable from those at time 1. This pattern occurred despite a very short delay (less than 10 minutes) between the discussion (time 2) and post-discussion (time 3) periods and the existence of a well-documented repetition advantage in free-recall memory tasks (Nieuwenhuis-Mark, 2012).

Our work makes several theoretical and methodological contributions. First, we provide *experimental* evidence of political discussion increasing the likelihood that individuals possess accurate political information. Although this finding is in line with most other studies of political discussion and political knowledge (Amsalem & Nir, 2019), our study joins a very small body of work that has provided experimental evidence of interpersonal discussion's effect on political knowledge (for others, see Eveland & Schmitt, 2015; Lenart, 1994; Vercellotti & Matto, 2016). That is, rather than self-reporting how often or with whom individuals discuss politics in their everyday lives, our study randomly assigned some people to discuss politics and others to not and measured the level of accurate political information those individuals possessed. Relative to other experimental studies, which used real political candidates and figures, ours made use of fictitious candidates, eliminating the possibility for individuals to have any knowledge about the candidates prior to participating in the study (i.e., eliminating the possibility of pretreatment effects; Druckman & Leeper, 2012).[12] Additionally, we also explored the effect of discussion on knowledge for *numerical* political information, something to our knowledge not yet done in the literature, thus increasing confidence about the generalizability of the effect across different information types.

Second, we provide evidence that distinct types of discussions are associated with individuals possessing differing levels of accurate political information. While prior work has found that conversation itself can increase the likelihood that individuals encode media messages into memory (Southwell, 2005), we instead consider how different types of conversations (e.g., those involving memory-refreshing, those involving scrutinizing) may lead to different levels of knowledge. Extant theorizing in the political communication literature has made the assumption that these discussion processes (memory-refreshing, scrutinizing) explain why political discussion can have a positive influence on political knowledge, but has not considered their relative efficacy (Amsalem & Nir, 2019). We show that these discussion types have differing potential effects on the facilitation of political knowledge. Additionally, we provide some of the first evidence on the frequency with which different discussion types occur over the course of political discussions involving joint remembering of information. Indeed, scrutinizing, a prominent discussion type in the literature theorized to underlie the relationship between political discussion and knowledge (Amsalem & Nir, 2019), occurred relatively infrequently in the discussions in our study. Taken together, these findings compel further investigations into how

different types of discussions compare to one another, both in terms of (a) the frequency with which they occur and (b) the extent to which they facilitate greater political knowledge. Such information will provide a more nuanced understanding of how political discussion contributes to political knowledge and will enrich theorizing about the relationship between the two.

Furthermore, we incorporate and analyze discussion types prominent in the psychology literature on discussion and knowledge (confirmatory feedback, cuing, and compromising) that are relevant to the domain of politics. Political communication scholars should consider them in theorizing about the relationship between interpersonal political discussion and political knowledge for two reasons. First, some of the discussion types were significantly related to high levels of political knowledge (i.e., confirmatory feedback). Second, some of them are highly relevant to the political domain (e.g., cueing is highly relevant to politics given the strong conceptual associations between concepts in politics such as parties and issue positions; Lodge & Hamill, 1986). Cueing in particular may also be relevant to forms of political knowledge which conceptualize possessing knowledge as possessing the ability to relate political concepts and ideas, such as knowledge structure density (Eveland et al., 2004).

Additionally, in contrast to much of the literature on political discussion, we focus on one specific but important conversational subtask—joint remembering of political facts. While future research should document the prevalence of joint remembering in everyday political discussion, we argue that it is likely prevalent in many discussions about politics. In addition, future work should examine the potential role of other goals and subtasks that arise over the course of political discussion and how the discussion types within these different subtasks are associated with political knowledge. More generally, recognizing that political conversations are not monolithic, but instead are comprised of individuals who possess multiple goals for discussion which are pursued via distinct conversational subtasks not only reflects an accurate portrayal of how conversations actually unfold in daily life (Tracy & Coupland, 1990), but there is also the possibility that the incidence and effects of different discussions types (e.g., scrutinizing, confirmatory feedback) may differ across subtasks.[13]

Third, we did not find evidence that the individuals retained political information encountered in political discussion. Even after a very short time-delay (less than 10 minutes), the increases we observed in the amount of accurate political information possessed by our participants vanished (see Figure 2c and d). This is an important finding since many political behaviors (e.g., voting) will likely occur more than 10 minutes after most political discussions. However, other factors which we did not capture in our controlled laboratory study (e.g., self-selection of discussion partners, multiple instances of discussion, media use) may work in conjunction with discussion to moderate the extent to which political discussion facilitates political knowledge (Huckfeldt & Sprague, 1995; Jacobs et al., 2009; Scheufele, 2002). For example, individuals may be more likely to retain information from a political

discussion with a close, trusted friend than with a stranger (as was the case in our study). Our study, then, lays the groundwork for future work to examine the moderating factors that lead knowledge-gains from political discussion to be retained.

As is the case with all studies, our study possesses several limitations. Our study lacked many features present in real-world discussions about politics such as an environmental context (e.g., the workplace; Mutz & Mondak, 2006), the ability to self-select discussion partners and discussion topics, and a motivation to express opinion information (participants in our study were instructed to focus their discussions on remembering as much as they could about the political information to which they were previously exposed). Future work should attempt to incorporate more of these real-world features, as they may play an important role in political discussion's effect on political knowledge overall, as well as the nature and types of discussions that people have. For example, the discussion type of confirmatory feedback may be more prevalent in this study due to discussions taking place between people who were strangers. As such, a social norm may exist to generally agree with the things a discussant says. Conversely, in political conversations between individuals who know each other well, discussants may be more likely to speak up and disagree with one another (Morey et al., 2012), which could lessen the prevalence of confirmatory feedback and increase the prevalence of scrutinizing. In addition, participants in our study discussed political facts just minutes after learning them. While this undoubtedly happens in some cases, many times participants may discuss political information hours or days after first learning it. It is therefore important for future work to vary the delay between exposure to and discussion about political facts to see if this has an effect on the effects of discussion on the retention of accurate political information to which people were exposed.

Furthermore, we assessed people's performance using a verbatim conception of memory (literal/precise memory; e.g., specific numerical facts and issue positions; Reyna & Brainerd, 1995). Examining this type of information is important as knowledge of specific candidate issue positions, and politically relevant numerical facts have been shown to be important for voter decision-making and policy preferences (Gooch & Huber, 2020; Lawrence & Sides, 2014; Velez et al., 2018). Future work should also investigate people's performance using a gist conception of memory (general meaning of information; e.g., number of Mexican immigrants is increasing; candidate is generally liberal; Reyna & Brainerd, 1995). People represent information via verbatim and gist memories and both can influence political decisions (Lodge et al., 1995).

In addition, our participants do not constitute a representative sample. They are younger and higher in educational attainment than the general public. Additionally, the majority of our sample (69%) reported identifying as Democrats and over half of our dyads were made up of only Democrats (of our 48 dyads, 27 dyads were Democrat–Democrat, 9 were Republican–Republican, and 12 were Democrat–Republican). There are theoretical reasons to believe that political discussion between individuals of the same versus different political parties will feature different

individual-level (e.g., differing perceptions of political facts; Ahler & Sood, 2018; Gaines, Kuklinski, Quirk, Peyton, & Verkuilen, 2007) and group-level dynamics (e.g., differing amounts of disagreement which occur during discussion; Mutz, 2002b) which may influence the extent to which political discussion facilitates political knowledge. But, due to the partisan composition of our sample, we did not detect significant differences in the relationship between discussion and political knowledge for dyads of different partisan compositions (see Supporting Materials). Future research should attempt to examine the open questions in the literature pursued in our paper in more diverse, representative samples.

Finally, we did not experimentally manipulate discussion type and this limits the causal conclusions that can be drawn between discussion types and political knowledge. Indeed, certain conditions (e.g., discussion partners, discussion contexts) will likely lend themselves to both different types of political discussions occurring and possibly different effects of those discussion types. Moreover, we did not code for the possibility of multiple discussion types co-occurring during a given discussion. Future work should attempt to provide experimental evidence for the effect of different types of political discussion on levels of political knowledge and account for and examine the simultaneous occurrence of multiple discussion types. More work on understanding the relative effects of these distinct discussion processes will help build a richer theoretical understanding of political discussion and its relationship to political knowledge, a relationship perhaps more complex than previously thought.

Overall, our work draws attention to important nuances in the relationship between interpersonal political communication and political knowledge which are ripe for further investigations. Our approach of content analyzing audio recordings of political discussion to examine how different discussion processes relate to different knowledge outcomes is an approach seldom taken in this literature (for an exception, see Eveland & Schmitt, 2015). But, as demonstrated here, this approach can unpack the otherwise "black box" of political discussion (Amsalem & Nir, 2019; Eveland & Schmitt, 2015; Gastil & Dillard, 1999). Doing this is an important next step in understanding the conditions under which discussion about politics can be most beneficial for improving the factual knowledge of citizens in democratic societies.

Endnotes

1. Other outcome variables examined in relation to discussion type include (but are not limited to) political efficacy (Pattie & Johnston, 2008), political tolerance (Testa et al., 2014), and the ability to generate arguments for and against political positions (Cappella, Price, & Nir, 2002; Price, Cappella, & Nir, 2002).
2. While we argue that joint remembering is likely prevalent in everyday political discussion, we do not have data on its prevalence in discussion and thus its prevalence is currently unknown. Future work should document the

prevalence of joint remembering, along with other conservational subtasks, in everyday political discussions.

3. Like scrutinizing, confirmatory feedback specifies a more specific process by which one individual provides positive reinforcement regarding the accuracy of a fact stated by their discussion partner, whereas agreement as conceptualized in political communication could entail discussants agreeing with information other than facts, such as opinions.
4. Participants who reported identifying as Independents were classified according to the party they felt most closely described their partisan identity.
5. Note that this number is continuously updated. When data for this study were collected in 2017, the total number of fatal police shootings for 2016 was 963. In 2020, the number for 2016 is 962.
6. Dyads of the same sex were used to account for the possibility that gender may confound communication during the recall task (Wall & Dewhurst, 1991)
7. Although there are many differences between free-recall and recognition-based memory measures, free-recall measures have been shown to be less susceptible to differential validity based on individual differences (e.g., age) in the context of media messages (Southwell et al., 2010).
8. Data and code needed to reproduce results in this article can be found at: https://osf.io/t48xn/.
9. There may be concerns that the short news story about public opinion toward same-sex marriage may tap into perceived opinion climate. Note that we obtain substantively similar results for H1, RQ1, and RQ2 when we remove the same-sex marriage items from the analyses.
10. For this model, Dunnett post-hoc comparisons were used because a Fligner and Killeen (1976) Test indicated that the homogeneity of variance assumption was violated and Dunnett comparisons are robust to violations of homogenous variance (Dunnett, 1980). For the remainder of the analysis of variances examining RQ1 and RQ2, Fligner–Killeen Tests indicated that the homogeneity of variance assumption was not violated and thus Tukey post-hoc contrasts were used.
11. For additional analysis of these data, see the Supporting Materials.
12. See the Supporting Materials for a more in-depth discussion of pretreatment effects in the context of our study.
13. For instance, subtasks in which people are trying to jointly remember information may be marked by greater incidence of confirmatory feedback, as one person states that they agree with their discussant's memory for facts. Conversely, subtasks in which one person is trying to persuade another may have fewer instances of confirmatory feedback, as inherently the discussants do not agree on an issue or topic and one person is trying to convince the other to adopt their view.

Acknowledgements

The authors thank Robert Bond for feedback on an earlier version of the paper and Emma Hite for help constructing some of the figures. We would also like to thank Katie Ferriby, Natalie Petit, Theo Randolph, Vinnie Pancini, and Michael Branum for their research assistance.

Funding

Ryan Moore is supported by a Stanford Interdisciplinary Graduate Fellowship.

Supporting Information

Additional Supporting information may be found in the online version of this article.

Please note: Oxford University Press is not responsible for the content or functionality of any supplementary materials supplied by the authors. Any queries (other than missing material) should be directed to the corresponding author for the article.

References

Ahler, D. J., & Sood, G. (2018). The parties in our heads: Misperceptions about party composition and their consequences. *The Journal of Politics*, *80*(3), 964–981. https://doi.org/10.1086/697253

Amsalem, E., & Nir, L. (2019). Does interpersonal discussion increase political knowledge? A meta-analysis. *Communication Research*, *48*(5), 619–641. https://doi.org/10.1177/0093650219866357

Baayen, R. H., Davidson, D., & Bates, D. M. (2008). Mixed-effects modeling with crossed random effects for subjects and items. *Journal of Memory and Language*, *59*(1), 390–412. https://doi.org/doi:10.1016/j.jml.2007.12.005

Baddeley, A. D. (1998). *Human memory: Theory and practice*. Boston, MA: Allyn and Bacon.

Baek, E. C., & Falk, E. B. (2018). Persuasion and influence: What makes a successful persuader? *Current Opinion in Psychology*, *24*, 53–57. https://doi.org/10.1016/j.copsyc.2018.05.004

Barabas, J., & Jerit, J. (2010). Are survey experiments externally valid? *American Political Science Review*, *104*(2), 226–242. https://doi.org/10.1017/S0003055410000092

Barber, B. (1984). *Strong democracy: Participatory politics for a new age*. Berkeley, CA: University of California Press.

Barber, S. J., Rajaram, S., & Fox, E. B. (2012). Learning and remembering with others: The key role of retrieval in shaping group recall and collective memory. *Social Cognition*, *30*(1), 121–132. https://doi.org/10.1521/soco.2012.30.1.121

Barnier, A. J., Harris, C. B., Morris, T., & Savage, G. (2018). Collaborative facilitation in older couples: successful joint remembering across memory tasks. *Frontiers in Psychology*, *9*, 2385. https://doi.org/10.3389/fpsyg.2018.02385

Bell, R. A., & Daly, J. A. (1984). The affinity-seeking function of communication. *Communication Monographs*, *51*(2), 91–115. https://doi.org/10.1080/03637758409390188

Blumen, H. M., & Rajaram, S. (2009). Effects of repeated collaborative retrieval on individual memory vary as a function of recall versus recognition tasks. *Memory*, *17*(8), 840–846. https://doi.org/10.1080/09658210903266931

Cappella, J. N., Price, V., & Nir, L. (2002). Argument repertoire as a reliable and valid measure of opinion quality: Electronic dialogue during campaign 2000. *Political Communication*, *19*(1), 73–93. https://doi.org/10.1080/105846002317246498

Carlson, T. N. (2019). Through the grapevine: Informational consequences of interpersonal political communication. *American Political Science Review*, *113*(2), 325–339. https://doi.org/10.1017/S000305541900008X

Clark, R. A. (1979). The impact of self-interest and desire for liking on the selection of communicative strategies. *Communication Monographs*, *46*(4), 257–273. https://doi.org/10.1080/03637757909376011

Congleton, A. R., & Rajaram, S. (2011). The influence of learning methods on collaboration: Prior repeated retrieval enhances retrieval organization, abolishes collaborative inhibition, and promotes post-collaborative memory. *Journal of Experimental Psychology. General*, *140*(4), 535–551. https://doi.org/10.1037/a0024308

Coronel, J. C., Poulsen, S., & Sweitzer, M. D. (2020). Investigating the generation and spread of numerical misinformation: A combined eye movement monitoring and social transmission approach. *Human Communication Research*, *46*(1), 25–54. https://doi.org/10.1093/hcr/hqz012

Craik, F. I. M., & Tulving, E. (1976). Depth of processing and the retention of words in episodic memory. *Journal of Experimental Psychology: General*, *104*(3), 268–294. https://doi.org/10.1037/0096-3445.104.3.268

de Tarde, G. (1901). *L'opinion et la foule*. Paris: F. Alcan.

de Vreese, C. H., & Boomgaarden, H. G. (2006). Media message flows and interpersonal communication: The conditional nature of effects on public opinion. *Communication Research*, *33*(1), 19–37. https://doi.org/10.1177/0093650205283100

Delia, J. G., Kline, S. L., & Burleson, B. R. (1979). The development of persuasive communication strategies in kindergarteners through twelfth-graders. *Communication Monographs*, *46*(4), 241–256. https://doi.org/10.1080/03637757909376010

Delli Carpini, M. X., & Keeter, S. (1996). *What Americans know about politics and why it matters*. New Haven: Yale University Press.

Dewey, J. (1927). *The public and its problems: An essay in political inquiry*. Chicago, IL: Gateway Books.

Doherty, C., Kiley, J., & Weisel, R. (2015, June 8). *Support for same-sex marriage at record high, but key segments remain opposed*. Pew Research Center—U.S. Politics & Policy. Retrieved from https://www.pewresearch.org/politics/2015/06/08/support-for-same-sex-marriage-at-record-high-but-key-segments-remain-opposed/

Drew, D., & Weaver, D. (2006). Voter learning in the 2004 presidential election: Did the media matter? *Journalism & Mass Communication Quarterly*, *83*(1), 25–42. https://doi.org/10.1177/107769900608300103

Druckman, J. N., & Leeper, T. J. (2012). Learning more from political communication experiments: Pretreatment and its effects. *American Journal of Political Science*, *56*(4), 875–896. https://doi.org/10.1111/j.1540-5907.2012.00582.x

Dunnett, C. W. (1980). Pairwise multiple comparisons in the unequal variance case. *Journal of the American Statistical Association*, *75*(372), 796–800. https://doi.org/10.1080/01621459.1980.10477552

Eveland, W. P. (2004). The effect of political discussion in producing informed citizens: the roles of information, motivation, and elaboration. *Political Communication*, *21*(2), 177–193. https://doi.org/10.1080/10584600490443877

Eveland, W. P., Hayes, A. F., Shah, D. V., & Kwak, N. (2005). Understanding the relationship between communication and political knowledge: A model comparison approach using panel data. *Political Communication*, *22*(4), 423–446. https://doi.org/10.1080/10584600500311345

Eveland, W. P., & Hively, M. H. (2009). Political discussion frequency, network size, and "heterogeneity" of discussion as predictors of political knowledge and participation. *Journal of Communication*, *59*(2), 205–224. https://doi.org/10.1111/j.1460-2466.2009.01412.x

Eveland, W. P. Jr., Marton, K., & Seo, M. (2004). Moving beyond "just the facts": The influence of online news on the content and structure of public affairs knowledge. *Communication Research*, *31*(1), 82–108. https://doi.org/10.1177/0093650203260203

Eveland, W. P., Morey, A. C., & Hutchens, M. J. (2011). Beyond deliberation: New directions for the study of informal political conversation from a communication perspective. *Journal of Communication*, *61*(6), 1082–1103. https://doi.org/10.1111/j.1460-2466.2011.01598.x

Eveland, W. P., & Schmitt, J. B. (2015). Communication content and knowledge content matters: integrating manipulation and observation in studying news and discussion learning effects. *Journal of Communication*, *65*(1), 170–191. https://doi.org/10.1111/jcom.12138

Eveland, W. P., & Thomson, T. (2006). Is it talking, thinking, or both? A lagged dependent variable model of discussion effects on political knowledge. *Journal of Communication*, *56*(3), 523–542. https://doi.org/10.1111/j.1460-2466.2006.00299.x

Feldman, L., & Price, V. (2008). Confusion or enlightenment?: How exposure to disagreement moderates the effects of political discussion and media use on candidate knowledge. *Communication Research*, *35*(1), 61–87. https://doi.org/10.1177/0093650207309362

Fligner, M. A., & Killeen, T. J. (1976). Distribution-free two-sample tests for scale. *Journal of the American Statistical Association*, *71*(353), 210–213. https://doi.org/10.1080/01621459.1976.10481517

Gaines, B. J., Kuklinski, J. H., Quirk, P. J., Peyton, B., & Verkuilen, J. (2007). Same facts, different interpretations: Partisan motivation and opinion on Iraq. *The Journal of Politics*, *69*(4), 957–974. https://doi.org/10.1111/j.1468-2508.2007.00601.x

Gastil, J., & Dillard, J. P. (1999). Increasing political sophistication through public deliberation. *Political Communication*, *16*(1), 3–23. https://doi.org/10.1080/105846099198749

Gerber, A. S., Gimpel, J. G., Green, D. P., & Shaw, D. R. (2011). How large and long-lasting are the persuasive effects of televised campaign ads? Results from a randomized field experiment. *American Political Science Review*, *105*(01), 135–150. https://doi.org/10.1017/S000305541000047X

Gil de Zúñiga, H., Valenzuela, S., & Weeks, B. E. (2016). Motivations for political discussion: Antecedents and consequences on civic engagement. *Human Communication Research*, *42*(4), 533–552. https://doi.org/10.1111/hcre.12086

Gonzalez-Barrera, A. (2015, November 19). *More Mexicans Leaving Than Coming to the U.S.* Pew Research Center's Hispanic Trends Project. Retrieved from https://www.pewresearch.org/hispanic/2015/11/19/more-mexicans-leaving-than-coming-to-the-u-s/

Gooch, A., & Huber, G. A. (2020). how issue positions affect candidate performance: experiments comparing campaign donors and the mass Public. *Political Behavior*, *42*(2), 531–556. https://doi.org/10.1007/s11109-018-9506-0

Guidetti, M., Cavazza, N., & Graziani, A. R. (2016). Perceived disagreement and heterogeneity in social networks: distinct effects on political participation. *The Journal of Social Psychology*, *156*(2), 222–242. https://doi.org/10.1080/00224545.2015.1095707

Harris, C. B., Barnier, A. J., Sutton, J., & Keil, P. G. (2014). Couples as socially distributed cognitive systems: Remembering in everyday social and material contexts. *Memory Studies*, *7*(3), 285–297. https://doi.org/10.1177/1750698014530619

Hill, S. J., Lo, J., Vavreck, L., & Zaller, J. (2013). How quickly we forget: the duration of persuasion effects from mass communication. *Political Communication*, *30*(4), 521–547. https://doi.org/10.1080/10584609.2013.828143

Hinsz, V. B. (1990). Cognitive and consensus processes in group recognition memory performance. *Journal of Personality and Social Psychology*, *59*(4), 705–718. https://doi.org/10.1037/0022-3514.59.4.705

Hirst, W., & Echterhoff, G. (2011). Remembering in conversations: The social sharing and reshaping of memories. *Annual Review of Psychology*, *63*(1), 55–79. https://doi.org/10.1146/annurev-psych-120710-100340

Hirst, W., & Stone, C. B. (2017). The effects of collaborative remembering on trial verdicts. In Kovera M.B. (Ed.) *The psychology of juries* (pp. 37–57). Worcester, MA: American Psychological Association. https://doi.org/10.1037/0000026-003

Huckfeldt, R., Johnson, P. E., & Sprague, J. (2004). *Political disagreement: The survival of diverse opinions within communication networks*. Cambridge: Cambridge University Press.

Huckfeldt, R., Mendez, J. M., & Osborn, T. (2004). Disagreement, ambivalence, and engagement: The political consequences of heterogeneous networks. *Political Psychology*, *25*(1), 65–95. https://doi.org/10.1111/j.1467-9221.2004.00357.x

Huckfeldt, R., & Sprague, J. (1995). *Citizens, politics, and social communication: Information and influence in an election campaign* (pp. viii, 305). Cambridge: Cambridge University Press. https://doi.org/10.1017/CBO9780511664113

Jacobs, L. R., Lomax Cook, F., & Delli Carpini, M. X. (2009). *Talking together: Public deliberation and political participation in America*. Chicago, IL: University of Chicago Press. https://doi.org/10.7208/chicago/9780226389899.001.0001

Kim, Y. (2015). Does disagreement mitigate polarization? How selective exposure and disagreement affect political polarization. *Journalism & Mass Communication Quarterly*, *92*(4), 915–937. https://doi.org/10.1177/1077699015596328

Kim, J., Wyatt, R. O., & Katz, E. (1999). News, talk, opinion, participation: The part played by conversation in deliberative democracy. *Political Communication*, *16*(4), 361–385. https://doi.org/10.1080/105846099198541

Klofstad, C. A., Sokhey, A. E., & McClurg, S. D. (2013). Disagreeing about disagreement: How conflict in social networks affects political behavior. *American Journal of Political Science*, *57*(1), 120–134. https://doi.org/10.1111/j.1540-5907.2012.00620.x

Lardieri, A. (2017). *Despite diverse demographics, most politicians are still white men*. US News & World Report. Retrieved from https://www.usnews.com/news/politics/articles/2017-10-24/despite-diverse-demographics-most-politicians-are-still-white-men

Lau, R. R., & Redlawsk, D. P. (2006). *How voters decide: Information processing during election campaigns*. Cambridge: Cambridge University Press. https://doi.org/10.1017/CBO9780511791048

Lawrence, E. D., & Sides, J. (2014). The consequences of political innumeracy. *Research & Politics*, *1*(2), 2053168014545414. https://doi.org/10.1177/2053168014545414

Lecheler, S., & de Vreese, C. H. (2011). Getting real: The duration of framing effects. *Journal of Communication*, *61*(5), 959–983. https://doi.org/10.1111/j.1460-2466.2011.01580.x

Lee, F. L. F. (2009). The impact of political discussion in a democratizing society: The moderating role of disagreement and support for democracy. *Communication Research*, *36*(3), 379–399. https://doi.org/10.1177/0093650209333027

Lenart, S. (1994). *Shaping political attitudes: The impact of interpersonal communication and mass media*. Thousand Oaks, CA: SAGE Publications.

Lodge, M., & Hamill, R. (1986). A partisan schema for political information processing. *American Political Science Review*, *80*(2), 505–519. https://doi.org/10.2307/1958271

Lodge, M., McGraw, K. M., & Stroh, P. (1989). An Impression-driven model of candidate evaluation. *The American Political Science Review*, *83*(2), 399–399. https://doi.org/10.2307/1962397

Lodge, M., Steenbergen, M., & Brau, S. (1995). The responsive voter: Campaign information and the dynamics of candidate evaluation. *American Political Science Review*, *89*(2), 309–326. https://doi.org/10.2307/2082427

Lupia, A. (2015). *Uninformed: Why people seem to know so little about politics and what we can do about it*. Oxford: Oxford University Press. https://doi.org/10.1093/oso/9780190263720.001.0001

Lupton, R., & Thornton, J. (2017). Disagreement, diversity, and participation: Examining the properties of several measures of political discussion network characteristics. *Political Behavior*, *39*(3), 585–608. https://doi.org/10.1007/s11109-016-9371-7

Luskin, R. C. (1987). Measuring political sophistication. *American Journal of Political Science*, *31*(4), 856–899. https://doi.org/10.2307/2111227

Matthes, J., Knoll, J., Valenzuela, S., Hopmann, D. N., & Von Sikorski, C. (2019). A meta-analysis of the effects of cross-cutting exposure on political participation. *Political Communication*, *36*(4), 523–542. https://doi.org/10.1080/10584609.2019.1619638

Maynard, D. W. (1980). Placement of topic changes in conversation. *Semiotica*, *30*(3–4), 263–290. https://doi.org/10.1515/semi.1980.30.3-4.263

McClurg, S. D. (2006). The electoral relevance of political talk: examining disagreement and expertise effects in social networks on political participation. *American Journal of Political Science*, *50*(3), 737–754. https://doi.org/10.1111/j.1540-5907.2006.00213.x

Meade, M. L., Harris, C. B., Bergen, P. V., Sutton, J., & Barnier, A. J. (2017). *Collaborative remembering: Theories, research, and applications*. Oxford: Oxford University Press. https://doi.org/10.1093/oso/9780198737865.001.0001

Meudell, P. R., Hitch, G. J., & Boyle, M. M. (1995). Collaboration in recall: Do pairs of people cross-cue each other to produce new memories? *The Quarterly Journal of Experimental Psychology. A, Human Experimental Psychology*, *48*(1), 141–152. https://doi.org/10.1080/14640749508401381

Mill, J. S. (1861). *Utilitarianism*. London: Longmans, Green and Company.

Mitchell, D.-G. (2012). It's about time: The lifespan of information effects in a multiweek campaign. *American Journal of Political Science*, *56*(2), 298–311. https://doi.org/10.1111/j.1540-5907.2011.00549.x

Morey, A. C., Eveland, W. P., & Hutchens, M. J. (2012). The "who" matters: Types of interpersonal relationships and avoidance of political disagreement. *Political Communication*, *29*(1), 86–103. https://doi.org/10.1080/10584609.2011.641070

Mutz, D. C. (2002a). The consequences of cross-cutting networks for political participation. *American Journal of Political Science*, *46*(4), 838–855. https://doi.org/10.2307/3088437

Mutz, D. C. (2002b). Cross-cutting social networks: Testing democratic theory in practice. *American Political Science Review*, *96*(1), 111–126. https://doi.org/10.1017/S0003055402004264

Mutz, D. C. (2006). *Hearing the other side: Deliberative versus participatory democracy*. Cambridge: Cambridge University Press. https://doi.org/10.1017/CBO9780511617201.002

Mutz, D. C., & Mondak, J. J. (2006). The workplace as a context for cross-cutting political discourse. *The Journal of Politics*, *68*(1), 140–155. https://doi.org/10.1111/j.1468-2508.2006.00376.x

Mutz, D. C., & Reeves, B. (2005). The new videomalaise: Effects of televised incivility on political trust. *American Political Science Review*, *99*(1), 1–15. https://doi.org/10.1017/S0003055405051452

Newport, F. (2011, September 8). *Americans still prefer male bosses; many have no preference*. Gallup.com. Retrieved from https://news.gallup.com/poll/149360/Americans-Prefer-Male-Bosses-No-Preference.aspx.

Nieuwenhuis-Mark, R. E. (2012). Recall and the effect of repetition on recall. In N. M. Seel (Ed.), *Encyclopedia of the Sciences of Learning* (pp. 2779–2782). New York: Springer US. https://doi.org/10.1007/978-1-4419-1428-6_290.

Nir, L. (2011). Disagreement and opposition in social networks: Does disagreement discourage turnout? *Political Studies*, *59*(3), 674–692. https://doi.org/10.1111/j.1467-9248.2010.00873.x

Okamoto, D. G., & Smith-Lovin, L. (2001). Changing the subject: Gender, status, and the dynamics of topic change. *American Sociological Review*, *66*(6), 852–873. https://doi.org/10.2307/3088876

O'Keefe, B. J. (1988). The logic of message design: Individual differences in reasoning about communication. *Communication Monographs*, *55*(1), 80–103. https://doi.org/10.1080/03637758809376159

Osborn, T., & Morehouse Mendez, J. (2011). Two become one? Spouses and agreement in political opinions. *American Politics Research*, *39*(5), 783–803. https://doi.org/10.1177/1532673X11404133

Pattie, C. J., & Johnston, R. J. (2008). It's good to talk: Talk, disagreement and tolerance. *British Journal of Political Science*, *38*(4), 677–698. https://doi.org/10.1017/S0007123408000331

Planalp, S., & Tracy, K. (1980). Not to change the topic but . . .: a cognitive approach to the management of conversation. *Annals of the International Communication Association*, *4*(1), 237–258. https://doi.org/10.1080/23808985.1980.11923805

Price, V., Cappella, J. N., & Nir, L. (2002). Does disagreement contribute to more deliberative opinion? *Political Communication*, *19*(1), 95–112. https://doi.org/10.1080/105846002317246506

Prior, M., & Lupia, A. (2008). Money, time, and political knowledge: Distinguishing quick recall and political learning skills. *American Journal of Political Science*, *52*(1), 169–183. https://doi.org/10.1111/j.1540-5907.2007.00306.x

Rajaram, S., & Pereira-Pasarin, L. P. (2010). Collaborative memory: Cognitive research and theory. *Perspectives on Psychological Science*, *5*(6), 649–663. https://doi.org/10.1177/1745691610388763

Reyna, V. F., & Brainerd, C. J. (1995). Fuzzy-trace theory: An interim synthesis. *Learning and Individual Differences*, *7*(1), 1–75. https://doi.org/10.1016/1041-6080(95)90031-4

Riffkin, R. (2014, October 14). *Americans still prefer a male boss to a female boss*. Gallup.com. Retrieved from https://news.gallup.com/poll/178484/americans-prefer-male-boss-female-boss.aspx

Scheufele, D. A. (2002). Examining differential gains from mass media and their implications for participatory behavior. *Communication Research*, *29*(1), 46–65. https://doi.org/10.1177/009365020202900103

Scheufele, D. A., Hardy, B. W., Brossard, D., Waismel-Manor, I. S., & Nisbet, E. (2006). Democracy based on difference: Examining the links between structural heterogeneity, heterogeneity of discussion networks, and democratic citizenship. *Journal of Communication*, *56*(4), 728–753. https://doi.org/10.1111/j.1460-2466.2006.00317.x

Scheufele, D. A., Nisbet, M. C., Brossard, D., & Nisbet, E. C. (2004). Social structure and citizenship: Examining the impacts of social setting, network heterogeneity, and informational variables on political participation. *Political Communication*, *21*(3), 315–338. https://doi.org/10.1080/10584600490481389

Scoboria, A., & Henkel, L. (2020). Defending or relinquishing belief in occurrence for remembered events that are challenged: A social-cognitive model. *Applied Cognitive Psychology, 34, 1243–1252*. https://doi.org/10.1002/acp.3713

Song, H., & Boomgaarden, H. (2019). Personalities discussing politics: The effects of agreement and expertise on discussion frequency and the moderating role of personality traits. *International Journal of Communication*, *13*(0), 24.

Southwell, B. G. (2005). Between messages and people: A multilevel model of memory for television content. *Communication Research*, *32*(1), 112–140. https://doi.org/10.1177/0093650204271401

Southwell, B. G., Gilkerson, N. D., Depue, J. B., Shelton, A. K., Friedenberg, L. M., & Koutstaal, W. (2010). Aging and the questionable validity of recognition-based exposure measurement. *Communication Research*, *37*(5), 603–619. https://doi.org/10.1177/0093650209356442

Southwell, B. G., & Yzer, M. C. (2007). The roles of interpersonal communication in mass media campaigns. *Annals of the International Communication Association*, *31*(1), 420–462. https://doi.org/10.1080/23808985.2007.11679072

Southwell, B. G., & Yzer, M. C. (2009). When (and why) interpersonal talk matters for campaigns. *Communication Theory*, *19*(1), 1–8. https://doi.org/10.1111/j.1468-2885.2008.01329.x

Testa, P. F., Hibbing, M. V., & Ritchie, M. (2014). Orientations toward conflict and the conditional effects of political disagreement. *The Journal of Politics*, *76*(3), 770–785. https://doi.org/10.1017/S0022381614000255

The Washington Post. (2016). *Police shootings 2016 database*. Washington Post. Retrieved from https://www.washingtonpost.com/graphics/national/police-shootings-2016/

Thorley, C., & Kumar, D. (2017). Eyewitness susceptibility to co-witness misinformation is influenced by co-witness confidence and own self-confidence. *Psychology, Crime & Law*, *23*(4), 342–360. https://doi.org/10.1080/1068316X.2016.1258471

Thorson, E. (2014). Beyond opinion leaders: How attempts to persuade foster political awareness and campaign learning. *Communication Research*, *41*(3), 353–374. https://doi.org/10.1177/0093650212443824

Townshend, R. (2020). *Official portrait of Rt Hon Steve Barclay MP crop 2.jpg*. Retrieved from https://commons.wikimedia.org/wiki/File:Official_portrait_of_Rt_Hon_Steve_Barclay_MP_crop_2.jpg

Tracy, K., & Coupland, N. (1990). Multiple goals in discourse: An overview of issues. *Journal of Language and Social Psychology*, *9*(1–2), 1–13. https://doi.org/10.1177/0261927X9091001

Tracy, K., Craig, R. T., Smith, M., & Spisak, F. (1984). The discourse of requests: Assessment of a compliance-gaining approach. *Human Communication Research*, *10*(4), 513–538. https://doi.org/10.1111/j.1468-2958.1984.tb00030.x

Velez, Y. R., Borelli, G., Carse, T., Chen, Z., Pezanoski-Cohen, A., Dunphy, P., . . . Wong, G. (2018). Nothing to fear? Anxiety, numeracy, and demographic perceptions. *Research & Politics*, *5*(3), 2053168018794583. https://doi.org/10.1177/2053168018794583

Vercellotti, T., & Matto, E. C. (2016). The role of media use in the classroom and at home in improving news consumption and political knowledge. *Journal of Political Science Education*, *12*(2), 151–168. https://doi.org/10.1080/15512169.2015.1067624

Vredeveldt, A., Groen, R. N., Ampt, J. E., & van Koppen, P. J. (2017). When discussion between eyewitnesses helps memory. *Legal and Criminological Psychology*, *22*(2), 242–259. https://doi.org/10.1111/lcrp.12097

Vredeveldt, A., Hildebrandt, A., & van Koppen, P. J. (2016). Acknowledge, repeat, rephrase, elaborate: Witnesses can help each other remember more. *Memory*, *24*(5), 669–682. https://doi.org/10.1080/09658211.2015.1042884

Vredeveldt, A., van Deuren, S., & van Koppen, P. J. (2019). Remembering with a friend or a stranger: Comparing acquainted and unacquainted pairs in collaborative eyewitness interviews. *Memory*, *27*(10), 1390–1403. https://doi.org/10.1080/09658211.2019.1662052

Wall, V. D., & Dewhurst, M. L. (1991). Mediator gender: Communication differences in resolved and unresolved mediations. *Mediation Quarterly*, *9*(1), 63–85. https://doi.org/10.1002/crq.3900090107

Wegner, D. M., Giuliano, T., & Hertel, P. T. (1985). Cognitive Interdependence in Close Relationships. In *Compatible and Incompatible Relationships* (pp. 253–276). New York, NY: Springer. https://doi.org/10.1007/978-1-4612-5044-9_12

Zaller, J. R. (1992). *The nature and origins of mass opinion*. Cambridge: Cambridge University Press. https://doi.org/10.1017/CBO9780511818691