

The Contexts of Political Participation: The Communication Mediation Model Under Varying Structural Conditions of the Public Sphere

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Abstract

The communication mediation model asserts that the effects of news use on political participation are mostly indirect, mediated through discussion. Recent research has shown that this mediation process is stronger in countries where freedom of the press and expression are also greater. Relying on data collected during election cycles in seventeen countries between 2013 and 2018, we examine how additional country-level factors, including political freedom and digital infrastructure, moderate the indirect relationship between news use and political participation via political talk. Results provide evidence that these factors condition both outcomes, but in different ways. For protest, two of three country-level indices moderate individual-level variation in the pathway between political talk and protest. For voting, two of three country-level indices moderate aggregate-level variation in the pathway between news use and political talk. Results are discussed in light of their implications for the communication mediation model and comparative political communication research.

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Keywords

communication mediation model, freedom of expression, political freedom, digital infrastructure, comparative political communication, Comparative National Elections Project

The communication mediation model helps to explain the relationship between news use and political participation by highlighting the role of political discussion in mediating the behavioral effects of news (Gil de Zúñiga et al. 2019; McLeod et al. 1994; 2001; Sotirovic and McLeod 2001). Finding that these effects are mostly indirect (Shah et al. 2005; 2017), the model has received extensive scholarly attention and has been studied in various contexts (Gil de Zúñiga et al. 2019; Lee 2017; Shah et al. 2005; 2017) since it was introduced by the "Wisconsin school" of political communication and civic engagement research decades ago (McLeod et al. 2001; Sotirovic and McLeod 2001).

But while this research has focused on individual-level factors that shape or facilitate communication mediation processes, we know from other bodies of literature that a myriad of contextual factors also play a role in influencing individuals' participatory behaviors (Dahl 1989). For example, these behaviors are influenced by the existence of civic associations (Putnam 1995; Schlozman et al. 2012) and institutional guarantees to freedom of expression (Coppedge et al. 2016). Furthermore, individual characteristics and contextual variables often interact to shape participatory behaviors. Thus, in countries with lower levels of press freedom we tend to find lower levels of participation overall, despite the robust individual-level associations between news consumption, knowledge, and participation (Leeson 2008; Schoonvelde 2014). Furthermore, recent research has found that the communication mediation process is stronger in countries where freedom of the press and expression are also stronger (Gil de Zúñiga et al. 2019). In these countries, social norms encourage conversation, enabling individuals to reflect on and learn from the news. However, other institutional arrangements and communication infrastructures may also affect these processes that have not yet been examined.

To explore how these additional contextual factors affect processes of communication mediation, we rely on data from the Comparative National Elections Project (CNEP). We use country-level metrics for freedom of expression, digital infrastructure, and political freedom, and we then test how these indices moderate the communication mediation process in seventeen countries during election years. In doing so, (1) we advance previous research that applies a comparative perspective to communication mediation (e.g., Gil de Zúñiga et al. 2019), (2) we consider two multilevel moderated mediation models that examine both first-stage (news-to-talk) and second-stage (talk-to-participation) moderation, and (3) we highlight the role of communication infrastructures and political freedom alongside press and expression freedoms.

The Communication Mediation Model

Scholars over the years have tested and explained how communication patterns can mediate the relationship between individual predispositions and political participation

(McLeod, et al. 1994, 2001; Sotirovic and McLeod 2001). This mediated relationship is at the heart of the communication mediation model, which takes as its core idea that political discussion mediates the impact of news on participation—an indirect process that has been documented by scholars in both online and offline contexts (Shah et al. 2005, 2007). The model developed during the "deliberative turn" in political communication research during the 1980s and 90s (e.g., McLeod et al. 1994), but some of its core ideas have their roots in a scholastic tradition tracing back through Austrian émigré sociologist Paul Lazarsfeld's work on the "two-step flow" of political communication (Lazarsfeld et al. 1944) and, even earlier, to French sociologist Gabriel Tarde's work on news, discussion, and political action that was developed in 1898 (Clark 1969). Explaining the relationship between news use and discussion, Tarde wrote "one pen suffices to set off a million tongues" (Clark 1969: 304). Tarde explains that news gives people topics to discuss such that the press "unifies and invigorates conversations" (Clark 1969: 312). The communication mediation model formalizes these ideas by articulating how news, discussion, and behavior are linked across various communication settings, providing a model that is robust to different contexts, as well as to changes in political and technological realities (Shah et al. 2017).

Before examining the mechanisms driving communication mediation processes, we first turn to a review of the model's component relationships. Research shows a positive association between news use and political participation in multiple studies and for different types of media (McLeod et al. 1999; Zhang 2012). For example, the findings hold in the case of newspaper use (Choi 2016), social media news use (Gil de Zúñiga et al. 2015), multiple platform news use (Edgerly et al. 2018; Kim et al. 2016), dual screening (McGregor and Mourão 2017), and even news delivered in the form of satire (Hoffman and Young 2011). News and public affairs information supplies mobilizing information (Lemert 1992) and provides resources that help citizens engage in politics (Shah et al. 2005). Similarly, news helps individuals orient themselves toward politics and political processes (Sotirovic and McLeod 2001).

Scholars also have found evidence of a positive relationship between political discussion and political and civic participation in multiple contexts (Kligler-Vilenchik and Shresthova 2012; Rojas 2008; Shah et al. 2005). Interpersonal communication helps citizens to understand political processes (Kim et al. 2016), and facilitates political learning (Kligler-Vilenchik and Shresthova 2012; Meirick and Wackman 2004). Political discussion also helps people develop their own thoughts about political issues (Benhabib 1996), often become more informed about a topic in the processes of attempting to persuade others of their views (Thorson 2014). Thus, political conversation is both a social and a psychological process that affords individuals the ability to hone their views, express their opinions, learn about politics from the other side, and perhaps reach a conclusion (Shah 2016).

Turning back to the communication mediation model, the basic model "integrates [these] mass and interpersonal processes" (Shah et al. 2017: 491), and much of the research on the model has been oriented toward outlining the individual-level relationships and mechanisms. For example, in an influential article, Shah and colleagues (2005) provide evidence of how both online media and traditional media use facilitate

political talk and civic messaging. Further these two variables, political and civic discussion, impact civic participation. Meanwhile, other studies have specified theoretical mechanisms related to cognitive elaboration, reflection, and reasoning (Eveland et al. 2003; Shah et al. 2007). These studies find that political discussion promotes critical reflection and cognitive elaboration, and these cognitive processes crystallize attitudes, increase understanding of politics, and mobilize people for political action.

Political participation can be described as "those actions of private citizens by which they seek to influence or to support government and politics" (Milbrath 1981: 198), and prior research has conceptualized and operationalized it in different ways. The earliest studies focused on voting (Milbrath 1981), but as research in this area grew, scholars continued to update the conceptualization of political participation to include behaviors such as campaigning, making financial contributions, attending meetings, and protesting (Converse et al. 1961; Leighley 1995; Milbrath 1981; Saunders 2014; Zaslove et al. 2021). While many of these behaviors are different from one another and may be driven by different mechanisms, the communication mediation model posits that they share at least one mechanism in common, which is the cognitive reflection and elaboration that occurs during discussion and facilitates the development of long-term orientations and commitments that motivate participation in a wide range of political activities (Shah et al. 2007). Therefore, the model does not distinguish between various forms of political participation, because it is interested in modelling the general and indirect influence of discussion on participation while also recognizing that participatory behavior can be driven by multiple factors other than discussion.

It is also important to note that political participation may not be uniformly beneficial to democracy. For example, some forms of armed violence could be considered as acts of political participation, such as those that occur during protests or rallies (Sabucedo and Arce 1991). Therefore, in addition to driving democratically beneficial acts of participation, communication also may facilitate detrimental forms of participation that foster "political extremity, distrust, and [the perceived il]legitimacy of the overall political system" (Shah et al. 2017: 496). Considering the prevalence of political disinformation in some news networks (Hendel 2021), these detrimental effects have become more commonplace. In the current paper, we make no distinction between democratically beneficial and detrimental acts of participation.

With this broader understanding of political participation in mind, our first hypothesis predicts that our findings will further confirm the core indirect relationship in communication mediation model, which has consistently been supported by prior research.

H1: Political discussion is a mediator between news use and political participation.

Macrolevel Structures

Considering the theoretical importance of this basic communication mediation model, scholars continue to update this model (e.g., Gil de Zúñiga et al. 2019; Shah et al. 2017). Taking into account the current media ecology and the increasingly "partisan political communication ecology" (p. 496), Shah and his colleagues propose a

revised model that maintains the centrality of mass and interpersonal communication in predicting political participation, but acknowledge different contexts and personal choices that may result in differential effects. Participatory behavior is not cultivated in isolation, because individual political behavior is often shaped by multiple macrolevel influences. In the current study, we are interested in expanding the model beyond examining microlevel variables to include macrolevel societal variables or a context in which communication mediation takes place. Recent research has started to explore the influence of macrolevel variables. For example, Gil de Zúñiga and colleagues (2019) test the communication mediation model in nineteen countries, finding an indirect effect of news on political participation through discussion that is moderated by a country's expression norms and press freedom. In countries with lower freedom of expression, discussion is not related to political participation, while in countries with higher freedom of expression, political talk is positively related with participation. In this study, we include two structural factors in addition to free expression: political freedom and digital infrastructure.

Freedom of Expression

Prior research suggests that freedom of expression, which comprises press freedom, expression norms, and academic freedom, is an important macrolevel factor that shapes communication patterns within countries (Barnidge et al. 2018; Gil de Zúñiga et al. 2019). Considering the powerful influence of media, governments may often try to control media organizations and intervene in the process of the free flow of information to the citizens (Leeson 2008). Limits to press freedom can be achieved by a direct control that monopolizes media ownership, or by more subtle ways that include financial pressures (Leeson and Coyne 2005). Lower freedom of the press has been related to lower political participation and political learning (Leeson 2008; Schoonvelde 2014). Open expression norms also have an influence on political communication and behavior. Prior research shows that in countries with more open citizen-to-citizen expression norms, people are more likely to engage in heterogeneous discussion (Barnidge et al. 2018) or political participation (Gil de Zúñiga et al. 2019).

But while prior research has established that free expression moderates the communication mediation process, it has not yet specified *which stage* of the process it affects—that is, whether it affects the "first stage" connection between news use and political talk or the "second-stage" connection between political talk and participation. There are good reasons to expect that either scenario (or both scenarios) are plausible. For example, the first-stage pathway involves the question of whether, when people encounter political news, they engage in political discussion and all of its resulting social and psychological processes (such as, e.g., cognitive elaboration and reflection, the crystallization of attitudes, the development of efficacy, and increased understanding of oppositional positions; see, e.g., Shah 2016 for a discussion about these pro-democratic effects of political conversation). Freedom of expression may act on this pathway via its social effects—the restriction of free information flows and the discouragement of open

discussion may reduce the likelihood that individuals engage in political discussions when they encounter news, and therefore they will be less likely to undergo the social-psychological processes that lead to participation. In contrast, the second-stage pathway between political talk and participation involves the question of whether the democratic benefits of political conversation are realized, which suggests an opportunity effect, or perhaps, the reduction of opportunity. In other words, second-stage moderation implies that people engage in the same conversational processes everywhere, but contextual influences may limit opportunities to convert those processes into meaningful democratic action in some countries. Free expression may act on the second-stage pathway in this manner, limiting mobilizing information and social capital, developed during discussion that draws people into political action. Because both first- and second-stage moderation are plausible, we posit two separate hypotheses. The first prediction poses a conversational or social effect that limits discussion, and the second poses an opportunity effect that reduces chances for people to convert conversation into action.

H2: The indirect relationship between news use and political participation via political discussion will be conditional on freedom of expression, which will moderate the path between news use and political discussion.

H3: The indirect relationship between news use and political participation via political discussion will be conditional on freedom of expression, which will moderate the path between political discussion and political participation.

Digital Infrastructure

Digital infrastructure has often been considered as a combination of technological systems that facilitate the functions of an information system (Henfridsson and Bygstad 2013), which constitutes "both social and technical elements" (Henfridsson and Bygstad 2013: 908). Research has examined the significance of internet access as well as the concerns about inequalities in this access (Hoffman and Novak 1998; Katz et al. 2001). Levels of access can be determined by demographic characteristics such as age, gender, and socio economic status (Rojas and Puig-i-Abril 2009), and also by the available societal infrastructures. Often, these concerns about access decrease over time, yet new gaps emerge with newer technologies (DiMaggio et al. 2001). Just as with freedom of expression, digital infrastructure could influence the first stage of the communication process via its social or conversational effects, or the second stage of the process via its opportunity effects. In the first scenario, higher levels of digital access in a society would enable individuals to engage more in politics because as larger percentages of the population are online, the potential for political conversation is expanded. In the second stage, these conversations could produce mobilizing information and social connections that draw people into political participation. Thus, we propose the following hypotheses:

H4: The indirect relationship between news use and political participation via political discussion will be conditional on available digital infrastructure, which will moderate the path between news use and political discussion.

H5: The indirect relationship between news use and political participation via political discussion will be conditional on available digital infrastructure, which will moderate the path between political discussion and political participation.

Political Freedom

The final macrolevel variable in our study is political freedom, which refers to the fairness, inclusivity, and functionality of electoral, legal, and administrative systems and institutions in a democratic government (Lührmann et al. 2020; Repucci 2020). Systems and institutions that function to the benefit of all may increase belief in and support for democracy and limit disaffection with democracy (Torcal and Montero 2006). Without functional systems and institutions, opportunities for meaningful democratic participation may be lacking, leading to the obvious logical assertion that low levels of political freedom may have a second-stage effect on communication mediation processes, as people may have no meaningful outlet for engaging in political action even after discussing politics with their social contacts. However, these systems and institutions may also have a first-stage effect by discouraging discussion via a wholesale negative effect on individuals' political efficacy and beliefs in democratic processes. That is, if people do not believe they have a real say in democratic governance, they may be less likely to share their views with others via political discussion. Therefore, we posit both first-stage and a second-stage hypotheses for political freedom.

H6: The indirect relationship between news use and political participation via political discussion will be conditional on political freedom, which will moderate the path between news use and political discussion.

H7: The indirect relationship between news use and political participation via political discussion will be conditional on political freedom, which will moderate the path between political discussion and political participation.

Methods

Sample and Data

Data comes from the CNEP (https://u.osu.edu/cnep/), which is a collection of sixty surveys conducted in thirty different countries during election years between 1990 and 2020 (e.g., Barnidge et al. 2019; Eveland et al. 2015). The individual surveys have been archived and aggregated by an international team of political communication scholars, with an increasing degree of standardization in questionnaires over time. From the sixty surveys, seventeen were selected (a number that aligns with published political communication research; e.g., Barnidge et al. 2018; Gil de Zúñiga et al. 2019; Shehata and Strömbäck 2011). The criteria for selecting the countries are

included in the Supplemental Information file. Technical information, including survey firms, funding organizations, survey dates, target populations, sampling methods, sample sizes, interview modes, and response rates are available in Table A1 of the Supplemental Information file. The overall dataset has a sample size of N=26,448. These data were combined with country-level data from Freedom House and V-Dem, which are described below.

Measures

Descriptive statistics reported below are grand means (or proportions) and standard deviations for the overall dataset. Country-level descriptive statistics are available in Table A2 of the Supplemental Information file, and additional information about the elections in each country is available in Table A3 of the Supplemental Information file.

Political Participation

Political participation is indicated by two binary variables, which are treated as separate outcomes in the analyses. Respondents were asked whether they attended a protest in the last 12 months (*protest*; 11 percent yes) and voted in the most recent election (*vote*; 83 percent yes).

Political Talk

Respondents were asked how often they talk with their spouse/partner about the election (0 = Never, 3 = Often; respondents who do not have a spouse/partner did not receive this question). They were then asked to name three other discussants, to articulate their relationship with each, and to indicate how often (on the same scale as above) they talked about the election with each. The research team then coded these responses into separate talk frequency items for (1) spouse/partner, (2) family, (3) friends, (4) coworkers, and (5) neighbors. To create the final *political talk* variable, the five resulting items were averaged for each respondent using pairwise combination (Cronbach's $\alpha = 0.79$, M = 1.32, SD = 0.81).

News Use

The *news use* measure combines six questionnaire items. The first three asked how often respondents followed information about the election through newspapers, radio, and television (0 = Never, 4 = Daily or almost daily). The remaining three items asked respondents (on the same scale) how often they used a computer or mobile device to receive election information from the news media, party or candidate sources, and other political information sources. These six items were averaged for each respondent (Cronbach's $\alpha = 0.69$, M = 1.93, SD = 1.18).

Control Variables

The MLMED macro (see below) only allows for three covariates. Given this constraint, we ascertained the three most important controls were age (M=45.45, SD=16.30), gender (52 percent female), and political interest (M=1.56, SD=0.96), which was measured on a 4-point scale (0=Not at all interested, 3=Very interested).

Country-Level Variables

The analysis includes three country-level metrics based on external data collected from the year of the election survey for each country. First, and based on prior literature (Barnidge et al. 2018; Gil de Zúñiga et al. 2019), the freedom of expression index (FEI) was created by standardizing and then combining Freedom House's press freedom index (scale reversed; Repucci 2020) and V-Dem's "thick" free expression index (Lührmann et al. 2020). These indices are positively correlated (r=.71,M=0.00, SD=0.93). Second, the digital infrastructure index (DII) was also based on prior literature (Barnidge et al. 2018), and it combines six metrics collected from webworldwide.io, which characterize high-speed internet access and use, broadband and mobile subscriptions, and internet connection speeds and number of servers (see "Measurement of Digital Infrastructure Index (DII)" in the Supplemental Information file for more details). These metrics were standardized and then averaged (Cronbach's $\alpha = 0.88$, M = 0.09, SD = 0.74). Third, the political freedom index (PFI) was created by combining Freedom House's PFI and V-Dem's liberal democracy index. These two indices are positively correlated (r = .91), and they were standardized and averaged for each country (M = 0.00, SD = 0.98). In order to isolate the influence of the moderators on the indirect effects, we also control for the human development index (HDI). We collected each country's HDI from undp.org for the year of the election survey.

Analysis

First, country-specific mediation tests were conducted using the PROCESS macro for SPSS (Hayes 2013). These models tested the indirect effects of news use on political participation via political talk in each of the seventeen countries. Second, multilevel moderated mediation tests were conducted using the MLMED macro for SPSS (Hayes and Rockwood 2020), which employs Monte Carlo resampling methods to safeguard against estimation bias. These models include random slopes and intercepts, as well as within-group and between-group effects, for all variables. First-stage and second-stage moderation were tested separately. Finally, conditional indirect effects were probed by fitting models at three levels of the moderator to observe how the indirect effects change as the moderator increases in value.

-0.84

-1.09

-0.52

-1.01

-2.11

-1.94

•					
Variable	Protest	Vote	Freedom of expression index	Digital infrastructure index	Political freedom index
Overall	1.12	1.08	0.00	0.09	0.00
Germany '17	1.18	1.13	0.84	0.97	0.64
Great Britain '17	1.15	1.14	0.61	0.99	0.69
US '16	1.16	1.07	0.70	0.74	0.73
Portugal '15	_	1.16	0.86	0.20	0.72
France '17	1.07	1.10	0.62	0.41	0.55
Spain '15	1.15	1.14	0.36	0.23	0.57
Italy '18	1.15	1.08	0.33	0.05	0.69
Chile '17	1.07	1.04	0.41	-0.22	0.70
Taiwan '16	1.20	1.03 ^{n.s.}	0.37	0.43	0.18
Greece '15	1.04	1.02 ^{n.s.}	-0.47	-0.01	0.17
S. Africa '14	1.09	1.07	-0.06	-0.78	-0.2 I
Hong Kong '15	1.12	1.05	-0.64	1.42	-2.29
Mexico '18	1.27	1.12	-1.10	-0.66	-0.83
Indonesia '14	1.04 ^{n.s.}	1.17	-0.80	-1.32	-1.09
6 1 1 10			1.40	0.04	

Table 1. Odds Ratios for Country-Level Indirect Effects, Along With Country Scores on the Country-Level Indices.

Notes. Cell entries are odds ratios based on indirect effects estimates from mediation models fit in the PROCESS macro (Hayes 2013). All estimates are statistically different from zero (which is represented as an odds ratio of 1.00), except where designated by the superscript, n.s.

-1.62

-0.79

-2.98

Results

Colombia '18

Kenya '13

Turkey '14

1.20

1.06 1.06^{n.s.} 1.12

1.07

1.03^{n.s.}

Table 1 shows results for the country-level mediation tests. Because the three outcomes are binary variables, the table reports odds ratios (ORs, i.e., exponentiated logistic regression (logit) coefficients) for the indirect effects of news use on political participation via political talk. All ORs are greater than 1 (indicating an effect estimate of zero) and most are statistically significant (with at least p < .05), which means that a positive indirect effect is observed in all countries for most outcomes. That said, there is a good deal of variation in effect sizes. As a baseline comparison, the indirect effects in the overall dataset are reported in the first row of the table and are as follows: protest = 1.12 and vote = 1.08. Countries that score high on the three country-level indices have relatively high ORs for protest and voting (although the correlations between the indices and ORs are not statistically significant), including Germany, Great Britain, Italy, Spain, France, and the United States. On the other hand, countries that score lower on the indices tend to have smaller ORs for these outcomes, including Turkey and Kenya. More variation in effect sizes is observed in the middle of the table,

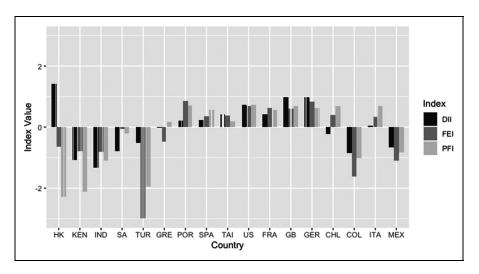


Figure 1. Country scores on the moderator indices.

Notes. PFI = political freedom index, DII = digital infrastructure index, FEI = freedom of expression index. HK = Hong Kong, KEN = Kenya, IND = Indonesia, SA = South Africa, TUR = Turkey, GRE = Greece, POR = Portugal, SPA = Spain, TAI = Taiwan, US = United States, FRA = France, GB = Great Britain, GER = Germany, CHL = Chile, COL = Colombia, ITA = Italy, MEX = Mexico.

with Taiwan, Mexico, and Colombia registering higher-than-expected effects given their scores on the indices, and countries such as Taiwan, South Africa, and Hong Kong displaying inconsistent effect sizes across the three outcomes. Still, the table shows a trend in which some communication mediation processes may be stronger in countries that are more democratized (Figure 1).

Multilevel moderated mediation tests were performed for each of the three component indices as separate moderators, including the FEI, the DII, and the PFI. These results are reported in Tables 2 and 3. The tables report 95 percent confidence intervals for moderated mediation indices (see Hayes and Rockwood, 2020). The tables also report both within-group and between-group indices for both first-stage and second-stage moderation. These moderated mediation indices are comparable to "cross-level interactions" one might typically find in a multilevel analysis wherein a "fixed" effect is estimated, along with the "random" variance of that effect across groups, and a "cross-level interaction" is used to explain that variation. We focus our reporting on the moderated mediation indices rather than on the "fixed and random effects," because conditional indirect effects lie at the heart of our study's aims and hypotheses.

For protest, results show similar effects for FEI (95 percent CI [0.001, 0.005]) and DII ([0.002, 0.008]), with statistically significant moderated mediation indices. Meanwhile, the PFI is not a significant moderator. The two significant interactions are for second-stage, within-group indirect effects, and these terms require some explanation. First, the within-group indices describe how within-group indirect effects—which are comparable to the ORs reported in Table 1—vary across countries. Second, second-stage

Table 2. Indices of Moderated Mediation for 1st Stage (News Use to Discussion) and 2nd Stage (Discussion to Participation) Moderated Mediation Models of the Indirect Relationship Between News and Protest Participation via Discussion at Various Levels of the Moderators.

	Protest				
Moderator	Freedom of expression index	Digital infrastructure index	Political freedom index		
Within-group					
1st stage	[-0.001, 0.002]	[-0.001, 0.002]	[-0.001, 0.002]		
2nd stage	[0.001, 0.005]	[0.002, 0.008]	[-0.001, 0.005]		
Between-group					
1st stage	[-0.203, 0.086]	[-0.328, 0.132]	[-0.238, 0.096]		
2nd stage	[-0.127, 0.135]	[-0.238, 0.085]	[-0.036, 0.150]		
Level of moderator	Indirect effect estimate (Within-group/ 2nd stage)				
−I SD	0.008 (0.002)***	0.006 (0.002)***	0.008 (0.002)***		
М	0.010 (0.002)***	0.009 (0.001)***	0.010 (0.002)***		
+I SD	0.013 (0.002)***	0.013 (0.002)***	0.012 (0.002)***		

Notes. Cell entries are moderated mediation indices estimates, along with indirect effect estimates, from a linear mixed effects model fit using the MLMED macro (Hayes and Rockwood 2020). N = 26,448, groups = 16. ***p < .001. All models control for age, gender, political interest, the human development index, and the other two moderators. All intercepts and slopes are allowed to vary randomly between countries, and all between-group effects are specified.

Table 3. Indices of Moderated Mediation for 1st Stage (News Use to Discussion) and 2nd Stage (Discussion to Participation) Moderated Mediation Models of the Indirect Relationship Between News and Voting via Discussion at Various Levels of the Moderators.

	Vote				
Moderator	Freedom of expression index	Digital infrastructure index	Political freedom index		
Within-group					
1st stage	[-0.001, 0.002]	[-0.001, 0.002]	[-0.001, 0.002]		
2nd stage	[-0.002, 0.003]	[-0.002, 0.004]	[-0.002, 0.003]		
Between-group					
1st stage	[-0.004, 0.262]	[0.015, 0.411]	[0.005, 0.282]		
2nd stage	[-0.121, 0.183]	[-0.096, 0.243]	[-0.166, 0.047]		
Level of moderator	Indirect effect estimate (between-group/1st stage)				
-1 SD	_	-0.115 (0.061)***	-0.188 (0.101)***		
М	_	0.026 (0.030)	-0.063 (0.039)***		
+ I SD	_	0.167 (0.095)***	0.061 (0.046)***		

Notes. Cell entries are moderated mediation indices estimates, along with indirect effect estimates, from a linear mixed effects model fit using the MLMED macro (Hayes and Rockwood 2020). N = 26,448, groups = 17. All models control for age, gender, political interest, the human development index, and the other two moderators. All intercepts and slopes are allowed to vary randomly between countries, and all between-group effects are specified.

moderation refers to moderation of the pathway between political talk and political participation. Thus, a significant within-group index for second-stage moderation means that the indirect effect of news use on participation through political talk varies across countries, because the relationship between political talk and political participation varies across countries. Thus, the confidence intervals reported above can be interpreted as evidence that the indirect effect of news use on protest participation is stronger in countries with higher scores on the moderating indices.

We probed each of the statistically significant interactions by estimating indirect effects at three levels of each moderator, and the effects behave similarly for all three indices, with indirect effects estimates at the low end of the moderators between 0.006 and 0.008 (all statistically significant with p < .001), and estimates at the high end of the moderators between 0.012 and 0.013). While the pattern is similar across the three moderators, the magnitude of the difference between estimates at low versus high levels of the moderator vary. The biggest difference is observed for DII ($\sim \Delta 0.007$), followed by FEI ($\sim \Delta 0.005$), and finally PFI ($\sim \Delta 0.004$).

Conditional indirect effects are also observed for voting (Table 3), but these effects are quite different from those observed for protest. For voting, significant first-stage between-group effects are observed for DII ([0.015, 0.411]) and PFI ([0.005, 0.282]).³ In contrast to second-stage effects, first-stage effects refer to the relationship between news use and political talk. Meanwhile, between-group effects refer to aggregate-level differences between the countries; that is, variation in the average indirect effect for voting is partially explained by two of the three moderating indices. Once again, we probed these interactions. For DII, the difference between countries that score low and high on the index is $\sim \Delta 0.322$, and for PFI the difference is $\sim \Delta 0.249$.

Taken together, these findings provide some support for the second-stage hypotheses when it comes to protest (H3, H5, and H7) and for the first-stage hypotheses when it comes to voting (H2, H4, and H6).

Discussion

We draw upon the logic of communication mediation research (Gil de Zúñiga et al. 2019; McLeod et al. 2001; Sotirovic and McLeod 2001; Shah et al. 2005; Shah et al. 2017) to test the influence of news consumption on different forms of participation as it is mediated by political conversation and moderated by three indices in seventeen countries. Our findings not only add support to a long line of research inquiry on the communication mediation model, but they also expand previous findings by examining how the connections between the individual-level variables in the model are influenced by various macrolevel factors that shape citizens' engagement in democratic processes. Our findings show that the indirect relationships posited in the model are conditioned by these macrolevel factors, which we took as indicators of the structural factors that shape the contours of public communication and civic life in democratic societies. Putting our results together, we can draw several conclusions.

First, we observe communication mediation in all countries for both participation outcomes. This finding lends robust support to the communication mediation model, which has already been tested in multiple national contexts and in different time periods. But our study is one of only two that provides comparative evidence of these processes. Much like that prior study (Gil de Zúñiga et al. 2019), our results show that communication mediation processes are common in democratic societies around the world, even in countries that have very different institutional configurations and democratic norms than observed in Western democracies.

Second, and with the caveat that observed effect sizes are small, the country-level indices help to explain individual-level variation in protesting, whereas they explain group-level variation in voting. This conclusion suggests that structural factors matter in different ways for different forms of participation, and raises the question of why voting is different from protesting. As Bell and colleagues (2001) note, voting "is a right that many of us see as a sign of our full participation in the democratic process" (p. 122). Yet there are many barriers to voting all over the world (Bell et al. 2001). In fact, different countries have unique barriers that target specific subsets of citizens, and these barriers could systematically reduce turnout. Perhaps for this reason, our study explains more aggregate-level variation in voting than individual-level variation. For example, according to V-Dem, Portugal has experienced substantial backsliding in liberal democracy in the past several years. In this scenario, our model predicts that aggregate-level turnout would be low, and, indeed, this is what occurred. In the 2019 elections, only 48.6 percent of registered voters turned out, which was the lowest ever in a Portuguese general election.

For protest, on the other hand, our findings suggest that the contextual factors explain variation within groups rather than variation between groups, and this finding helps move conversations about social movements and protest participation away from a focus on generalizations about groups differences (e.g., "Americans do this and French people do that") and toward an approach that focuses differences within groups of individuals (e.g., "people who engage in political conversation are more likely to participate when their country's digital infrastructures is robust"). For example, in Hong Kong freedom of expression has been curtailed in the past two years, as China has implemented antidemocratic policies and cracked down on prodemocracy advocates in academia and in the press. Based on our findings, we would expect the relationship between political discussion and protest participation to weaken in Hong Kong. Whereas Hong Kong residents who engage in discussions were, in the recent past, likely to attend a protest, we would no longer expect this to be the case.

Third, structural factors act on both stages of the communication mediation process, although which one also depends on the outcome in question. For protest, the relationship between talk and participation is conditional on country-level structures. For voting, on the other hand, the relationship between news use and talk is dependent on these structures. This study therefore elaborates on prior research (Gil de Zúñiga et al. 2019), and takes an additional step toward specifying the theoretical mechanisms behind contextual effects. Our findings point toward a social or conversational effect on voting. While voting is an individual act, discussion that occurs among peers in civic associations and social institutions may cultivate a sense of political self-

awareness, as well as commitment to and belief in electoral processes (Shah 2016). Low levels of institutional and systemic functionality and poor communication infrastructure may limit engagement in these kinds of political discussions, perhaps by fostering a widespread disaffection with democracy (Torcal and Montero 2006). In contrast, we find an opportunity effect when it comes to protest. The lack of free expression and communication infrastructure may limit opportunities for people to organize and mobilize for political action (As a caveat, it is important to note that our study does not differentiate between online and offline behavior, and parsing these opportunity effects as they relate to digital infrastructure is therefore an important avenue for future research.). Protest is not limited by disaffection or dissatisfaction, as we can infer for voting, as protest is often motivated by these very factors. Rather, protest is limited by a reduction in the mobilizing capacity of social networks and social movements brought about by the restriction of information. On the whole, the ways in which structural factors act on political communication processes depend on the outcomes of those processes.

Finally, we conclude that all three country-level indices are important moderators of communication mediation processes. This finding is in line with prior research demonstrating the importance of freedom of expression for democratic participatory behaviors (Gil de Zúñiga et al. 2019). But in addition to free expression, our study provides evidence that digital infrastructure and political freedom are also important for the effects of news use and political conversation to materialize in increased participation. Although freedom of expression and political freedom are important, perhaps freedom alone cannot facilitate this process. The broader communication structure is equally important. Higher access to digital infrastructure provides greater opportunities for individuals to engage in politics, as digital access not only provides individuals with information, but also affords them the opportunity to engage in political discussion.

Our study is not without limitations. First, the design may suffer from an endogeneity issue related to digital infrastructure. If digital infrastructure increases the availability of news, as well as opportunities for discussion, then in addition to acting as a moderator, it may also be a direct predictor of the independent variable and mediator. Future research could develop a design to address this endogeneity issue. On a related note, our study focuses on offline participation behaviors, but studies examining online participation may suffer from similar endogeneity issues. Therefore, our results may not generalize to online participation. Another design limitation is that the study relies on secondary data, and as a result, it is limited to countries that included the measurements of dependent and independent variables. Future research could approach the selection of countries in a more systematic way. Future research could also include more countries, as level-2 sample sizes lower than 50 can biased estimate of standard errors, producing confidence intervals with ~9 percent chance of noncoverage (Maas and Hox 2005). Relatedly, while our level-2 sample size provides sufficient statistical power to detect cross-level interactions, there is a small chance we have underreported the number of significant interactions due to the study being underpowered (Scherbaum and Ferreter 2009). Future research could also examine additional country-level variables that could impact communication mediation processes such as political parallelism, the prevalence of digital skills, or levels of foreign interference in elections. Finally, our study depends on cross-sectional data. The findings are correlational, and therefore we are unable to establish time order necessary for causal inference. In particular, mediation implies a time-ordered process, and while our variables are structured according to the communication mediation model, causal inferences should be drawn with caution. Similarly, we are also unable to establish that the country-level indices are causal, as we cannot account for the wide range of differences between the countries.

The study is also limited in terms of measurement. First, it relies on self-reported measures, and while these measures are common in survey-based research, future studies could incorporate observational data that validates self-reported measured. Second, a high percentage of respondents (83 percent) reported voting, and it is possible that some respondents overreported their behavior. Third, our measures are unable to parse the differences between positive and negative forms of political engagement, and future research should examine some of these differences.

The analysis is also limited in terms of its inability to interpret the meaning of democratic engagement in specific political contexts. Future research could incorporate qualitative methodologies to understand the meanings behind democratic participation in different national contexts in order to develop a richer understanding of these relationships (Powers and Vera-Zambrano 2018). For example, both Colombia and Mexico scored higher than expected on protest, and historical or grounded methods could be used for the better understanding of the political contexts of these two countries in order to understand why. Other analytic limitations arise from the statistical software. The MLMED macro only accommodates three covariates, and it does not allow a single variable to moderate multiple paths in a conditional process. Future research could test the conditional model while addressing these limitations. Finally, observed effects sizes are small, and our large sample size allows us to detect them. Still, even very small effects can accumulate to have a consequential impact over time (Funder and Ozer 2019). However, the findings should not be used to draw overstated conclusions about the moderating influence of the three indices, and careful attention should be paid to the magnitude of the conditional indirect effects.

In conclusion, our paper replicates and expands prior research on comparative approaches to the communication mediation model. It provides evidence that beyond press freedom and expression freedom, other macrolevel variables, such as digital infrastructure and political freedom, are important for understanding individual-level variation in democratic engagement processes. Our findings also illustrate the complexities of these processes, and highlight the need to include both individual and contextual variables in the communication mediation model.

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Supplemental Material

Supplemental material for this article is available online.

Notes

- We also tested models that include education rather than political interest as a covariate, and results are similar to those reported here.
- We also decomposed the political talk variable to determine whether these conditional indirect effects are driven by discussion with strong ties or weak ties. The pattern for protest suggests that results are driven by talk with friends, neighbors, and coworkers.
- 3. The pattern for voting suggests that results are driven by talk with family and friends.

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