

## **The Internet and Participation Inequality: A Multilevel Examination of 108 Countries**

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This study investigates the role of the Internet in civic participation inequality across 108 countries. Merging individual-level survey data from the 2016 Gallup World Poll with country-level indices, we conduct multilevel analyses to answer three broader sets of questions: (1) Does access to the Internet increase the likelihood of civic participation? (2) Does Internet access amplify or lessen socioeconomic stratification in civic participation? (3) Do press freedom and government intervention as contextual factors shape the role of the Internet in civic participation inequality? The findings suggest that Internet access increases the likelihood of civic participation while it also deepens socioeconomic stratification in participation. Cross-level interactions unveil that the intervening role of the Internet remains unaffected by press freedom, but government intervention through the promotion of ICT use can help control the growing inequality. We discuss the theoretical implications of these findings for political inequality research and the applied global significance.

*Keywords: civic participation, government intervention, Internet, participation gap, political inequality, press freedom*

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Date submitted: 2019–01–04

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The literature exploring the relationship between socioeconomic status (SES) and civic participation has been unequivocal in concluding that citizens belonging to higher SES strata are more active in civic life than those belonging to the lower SES strata; consequently, they also claim an advantage in influencing political outcomes (Norris, 2001; Verba, Schlozman, & Brady, 1995). Research has long recognized this socioeconomic stratification in participation as a type of societal inequality—political inequality—that poses a threat to civic harmony and democratic legitimacy in a polity (Lijphart, 1997; Verba, 2003).

Within this context, the rise of the Internet draws scholarly attention to what the new technology for information and communication would bring to the existing political inequality (Ahmed & Cho, 2019; Schlozman, Verba, & Brady, 2010). Research to date is inconclusive. On one hand, there is a heightened expectation that the Internet would help to subvert the structural inequality in society by providing the disadvantaged sections of the society with an open and affordable tool for participation that they might not otherwise have (Valenzuela, Somma, Scherman, & Arriagada, 2016; Xenos, Vromen, & Loader, 2014). On the other hand, a pessimistic view also exists, suggesting that the Internet would reinforce long-lasting political inequality in society because citizens already equipped with individual and social resources (e.g., skills, motivations, and networks) would be able to make better use of the Internet for their civic and political life and thus have more benefits (Ahmed & Cho, 2019; Carlisle & Patton, 2013). Despite the amount of attention it has received, no firm consensus has emerged as to the role of the Internet in political inequality (see Casteltrione, 2015).

Not only does the existing literature show mixed results, but there has been little effort to consider structural factors in analytical frameworks analyzing the effect of the Internet on civic participation inequality. Previous research confirms that institutional factors influence civic behavior; more important, macro-level processes, including press freedom and government policies, can determine the effect of technology (Jorba, Jensen, & Anduiza, 2012). Therefore, it is essential to adopt analytical frameworks that evaluate the SES-based participation gap at the individual level while considering structural level variables.

Beyond the analytical limitations, the geopolitical contexts considered in the literature are primarily limited to Western democracies. There has indeed been little attempt to examine the Internet and political inequality in non-Western contexts. It is thus unclear whether the ongoing debate and existing findings based on politically and economically established democracies are generalizable to other parts of the world. Furthermore, given that the impact of technology on society is to be shaped by the sociopolitical structures within which it operates, the dearth of comprehensive comparative research may contribute to the mixed evidence in previous work, resulting in a limited understanding of the role that the Internet plays in the democratic process.

Recognizing these gaps in the literature, we propose a cross-national comparative study looking at the pattern of socioeconomic stratification in participation and the role of the Internet in political inequality. We develop and test a set of theoretical proposals about how macro-level factors that vary country by country would influence the role played by the Internet at the individual-level participatory gaps. More specifically, we offer a multilevel theorization in which we test the relationships between SES-based civic

participation gaps at the individual level and the effect of macro-level structural factors at the country level. Through this multilevel theorization, the present study integrates country-level contexts into the dynamic of political inequality, adding another theoretical layer toward a more holistic understanding of the Internet and democracy. Particularly, beyond the socioeconomic and political status of each country, we focus on levels of press freedom and government intervention as macro-level factors because these are important contexts that can shape the role of the Internet. Although these two factors can only provide a partial picture, theory and empirical evidence about how sociopolitical contexts and technology interact with individual-level participatory gaps between different sections of society are still rare in literature. Furthermore, by analyzing 108 countries, this study goes beyond a specific geopolitical context to show an overall trend worldwide with enhanced generalizability, which is again rare in the literature.

In the sections that follow, we first review past research about socioeconomic stratification in civic participation and the relationship between Internet use and participation. We then introduce two competing hypotheses regarding the role of the Internet in political inequality—the mobilization and reinforcement hypotheses—and propose how press freedom and government intervention can shape the role that the Internet plays in society. Next, drawing on the 2016 Gallup World Poll from 108 countries ( $N = 111,213$ ), combined with country-level data about various sociopolitical and economic contexts, we conduct multilevel analyses to examine our hypotheses and research questions.

### **Civic Participation and Inequality**

Civic participation is “individual and collective actions designed to identify and address issues of public concern” (Adler & Goggin, 2005, pp. 240–241). Citizens’ voluntary and equal participation in civic activities is a fundamental premise of a functional democracy because it plays an essential role in sustaining democratic self-governance. Furthermore, research suggests that civic participation through which citizens cooperate on problems requiring collective effort plays a vital role in uplifting societies and individuals because it is associated with increased interpersonal trust, occupational success, life satisfaction, and better physical and mental health (B. H. Gottlieb & Gillespie, 2008; Thoits & Hewitt, 2001; Wilson & Musick, 1997).

Those who are engaging in civic participation should be representative of their community; otherwise, there is a threat of delegitimizing the integrity of democratic ideals. A large body of research on participation, however, has evidenced that highly educated or wealthy individuals have played a more prominent role in civic life relative to their less educated or less affluent counterparts (Lijphart, 1997; Verba et al., 1995). This socioeconomic stratification in participation arises out of unevenly distributed resources across the population (Verba et al., 1995). Active and consistent participation in civic life requires resources such as money, awareness of issues, greater access to social networks, and unrestricted time (see civic voluntarism model; Verba et al., 1995). Citizens belonging to the higher SES stratum have more opportunities to develop and sustain such resources, as compared with their lower SES counterparts. The disproportionate resources available to those in the higher SES stratum make civic participation more affordable to them and thereby creates a participation gap between the high- and low-SES strata.

Previous literature has confirmed the socioeconomic stratification in civic participation in both advanced and emerging democracies (Lancee & Van de Werfhorst, 2012; Verba, Nie, & Kim, 1987). Although

evidence has accumulated confirming the stratification in participation across countries, no study, to our knowledge, has ever examined the relationship between SES and civic participation on a worldwide scale, including countries with various sociocultural and historical backgrounds and at varying stages of political and economic development. Based on extant research that has reported a consistent relationship between SES and civic participation, we state our first expectation as follows:

*H1: Individuals with higher SES are more likely to have higher levels of civic participation.*

### **The Internet and Civic Participation**

Internet use is a unique vehicle for citizen participation beyond its underlying structural factors, as theorized in the civic voluntarism model (Verba et al., 1995). The Internet provides a freely accessible and affordable public space through which citizens share information, connect, and organize collective actions. The information, communication, and networking functions of the Internet lower costs for participation and help users engage in civic life with enhanced efficiency. The medium also facilitates two-way feedback and citizen involvement in the governing process (Nisbet, Stoycheff, & Pearce, 2012). Although the Internet does provide easy accessibility and affordability to everyone in society, it is common for individuals with higher SES to use it more commonly than their counterparts. Nevertheless, irrespective of this SES divide, most have argued that the Internet benefits everyone in a society that nurtures democracy.

There also exists disagreement about the role of the Internet in civic participation. Putnam (2000), for example, suggests that the Internet has a negative influence on civic engagement. Because of its strong entertainment function and its impersonal nature, the Internet would not only distract citizens from civic life but also distract them from civic activities and social bonding. However, available evidence suggests that Internet use is indeed multifaceted and linked, with various types of usage, such as information seeking, social interactions, personal life management, and entertainment, intersecting each other (Cho, Gil de Zúñiga, Rojas, & Shah, 2003). Thus, even when surfing the Internet (and social media) for entertainment purposes, users can encounter information or opportunities relevant to their civic life, which eventually fosters participation (Tewksbury, Weaver, & Maddex, 2001; Valeriani & Vaccari, 2016).

The evidence primarily supports a positive relationship between Internet use and participation (Boulianne, 2009; 2017; Shah, Cho, Eveland, & Kwak, 2005). Boulianne (2009) studied the impact of Internet use on civic engagement across 38 studies in the United States from 1995 to 2005. The findings establish a positive effect of Internet use on engagement. More recently, Skoric, Zhu, Goh, and Pang (2016) conducted a meta-analysis of 22 studies investigating the relationship between social media use and citizen engagement. They conclude that expressive, informational, and relational uses of social media are all positive predictors of citizen engagement. Another meta-analysis by Boulianne (2017) reveals similar patterns with a larger number of studies and confirms the decisive role of social media in participation, although the magnitude of these effects depends on political contexts. That is, the political use of social media is less likely to transform into offline participation in systems without a free press as compared with free-press countries. In sum, both early studies of the relationship between Internet use and participation (Boulianne, 2009; Shah et al., 2005) and comprehensive evidence from recent analyses of social media use and participation (Boulianne, 2017; Skoric et al., 2016) suggest a positive association between Internet use

and civic participation. Based on the arguments and evidence related to the Internet and social media use presented earlier, we posit our second hypothesis:

*H2: Internet access will be positively associated with civic participation.*

### **Mobilization Versus Reinforcement**

Although there is robust empirical evidence suggesting a positive relationship between Internet use and civic participation, there is no universal agreement on whether the mobilizing benefits of the medium make citizen participation less stratified across SES. The mobilization hypothesis theorists claim that the Internet narrows the participation gap between citizens of lower and higher SES (Gibson, Lusoli, & Ward, 2005; Tolbert & McNeal, 2003). This viewpoint highlights the participatory nature of the Internet that allows citizens to synchronize collective action and exchange information beyond socioeconomic constraints. Through its capacity to provide low-cost opportunities for information consumption, communication, and networking, the Internet lowers participation barriers imposed by individual-level resources such as time, civic skills, psychological engagement, and social networks.

Furthermore, inadvertent or accidental learning and recruitment on the Internet, especially via social media, can help those who are not psychologically involved in community life to catch up with more engaged citizens (Tewksbury et al., 2001; Valeriani & Vaccari, 2016). Thus, in this view, the Internet brings into civic life those who would not otherwise take the initiative to participate. In support of the mobilization hypothesis, Valenzuela and colleagues' (2016) analysis of 17 Latin American nations shows that social media use reduces protest gaps associated with individuals' age, gender, psychological engagement with politics, and recruitment networks. Similarly, a multicountry study of Australia, the United States, and the UK conducted by Xenos et al. (2014) suggests that the potential of social media for mobilization would reduce long-standing patterns of political inequality. Thus, based on the preceding discussion and findings, we propose our third hypothesis:

*H3: Access to the Internet would reduce civic participation gaps between low- and high-SES individuals.*

Contrary to the equalizing role of the Internet, however, others assert the opposite: that the Internet does not alter existing offline patterns of participation, but merely replicates the offline paradigms (Bimber, 1999; Schlozman et al., 2010). This view portends that even if the Internet increases the overall participation rate, people newly recruited into (or encouraged to further engage in) civic life are more likely those from advantaged backgrounds who are already better equipped with resources relevant to participation. Thus, despite the lowered barriers of access to information social networks and the cost of participation in the online sphere, the Internet may widen participatory gaps such that advantaged groups become more productive in using the online tools for civic purposes than the disadvantaged groups (Di Gennaro & Dutton, 2006; Nam, 2012, although he also finds mobilization effects). Thus, this view, known as the reinforcement hypothesis, suggests that the pattern of online civic engagement mirrors the existing class bias in civic participation offline. In support of the reinforcement hypothesis, Norris (2001) analyzed online civic engagement among citizens in Western Europe and the United States and found that the Internet facilitates opportunities for civic engagement for those who are already most interested and involved in

public affairs. Other investigations also report similar findings (Ahmed & Cho, 2019; Carlisle & Patton, 2013). Thus, based on the discussion and findings of the reinforcement hypothesis, we propose an alternative hypothesis (to H3):

*H4: Access to the Internet would increase civic participation gaps between low- and high-SES individuals.*

### **The Internet, Participation Inequality, and Sociopolitical Contexts?**

The inconsistent findings from the mobilization-reinforcement theses, largely examined in Western democracies, point to a complex relationship between Internet use and participation gaps and call for further theoretical refinement and empirical investigation using a cross-national comparative approach. This study aims to advance the debate regarding the role of the Internet in political inequality by exploring whether and how institutional contexts of each country influence the dynamic of Internet use and citizen participation. The political and democratic implications of technology are better understood when considered in conjunction with macro-societal environments under which its adoption and usage are embedded (Jorba et al., 2012). Although plausible, this possibility has rarely been explored, theoretically or empirically, in the literature of the Internet and participation (and participation gaps). In the present study, we consider two institutional factors—press freedom and government intervention—that have been respectively considered important in determining what role media or the press can play in society (Chomsky, 2002) and understanding citizen participation (Leeson, 2008).

Around the world, media organizations are not always an independent “fourth estate”—instead, they are often more or less embedded into the political environment of a country (Hallin & Mancini, 2004). When comparing cross-nationally, media systems are controlled by the state to varying degrees and in various ways, and in many countries, they are often used for propaganda (Chomsky, 2002; Yi, 2016). Even in democracies in which the media functions independently of the government, subtle ways of government control over the press have been observed from time to time, especially when it comes to war or other national security issues (Bennett, Lawrence, & Livingstone, 2008). Although the Internet, because of its innate horizontal connectivity, is less susceptible to external control relative to traditional forms of mass communication (Deibert, Palfrey, Rohozinski, Zittrain, & Haraszti, 2010), the degree of press freedom (or conversely, the extent of government control or censorship) in a country is likely to be implicated in the role the Internet can play. Scholars posit that online media would more likely play a complementary role in the function of the press in societies with higher press freedom as compared with societies where press freedom is restricted (Chomsky, 2002). From this view, a possibility is that press freedom of a country would lead to a synergetic interaction between online and offline media systems, strengthening the democratic potential of the Internet. In this vein, Nisbet et al. (2012) suggest that press freedom amplifies the relationship between Internet use and public attitude toward democratic ideals. It is also long known that press freedom itself is strongly associated with political developments and citizen participation (Leeson, 2008). Despite the possibility that press freedom, as a societal context, encourages participation and amplifies the overall positive roles that the Internet plays, it is still uncertain whether press freedom would make benefits of the Internet equally distributed to citizens in various socioeconomic strata or concentrated on those in higher strata. Thus, we pose the following research question:

*RQ1: How does the press freedom of a country as a contextual factor shape the role of the Internet in civic participation gaps?*

Government intervention in sociopolitical inequality is a widely debated and researched topic in social sciences (e.g., Verba, 2003). Within the context of ICTs, the government may organize efforts around objectives, such as facilitating equal access for the Internet by installing computers in low socioeconomic households or public schools, libraries, or other community facilities. As an extension of “universal service” in telephone services, the necessity of universal access to the Internet has increasingly been recognized worldwide over the past decade (Mossberger, Tolbert, & McNeal, 2007). The U.S. Federal Communications Commission, for example, makes it clear that “high-speed Internet as the 21st Century’s essential communications technology” needs to be made as ubiquitous as voice (Federal Communications Commission, 2019, p. 1). To address the issue of the digital divide, many countries around the globe expand the traditional idea of universal service in telecommunications to include Internet access and advanced services (Nuechterlein & Weiser, 2007). However, merely ensuring equal or universal access itself is by no means enough for digital equality because the responsibility for maximizing the use of such opportunities would depend on the choices and skills of an individual (DiMaggio & Hargittai, 2001). Consistent with the observation of so-called second-level digital divide (Hargittai, 2002), recent work shows, for example, that capital investment in ICTs by the government to boost the economic situation of low-wage workers paradoxically resulted in an exacerbated wage inequality gap because the poor do not have the skills necessary to use advanced ICT services (Loh & Chib, 2016). Thus, government interventions have the potential to reenergize the citizenry and induce social change (Sen, 1983)—but these interventions must be strategic (Verba, 2003). As such, the United Nations Division for Public Administration and Development Management (2016) suggests that although digital technologies have spread across the globe, the positive developmental benefits from using these technologies are still limited. It is advised that governments not only employ effective ICT policies for mobilization, but also devise strategies to overcome social challenges—for example, assisting citizens in adapting to new technologies or helping certain sections overcome their fear of modern technology. Such endeavors would help the marginalized citizens (who were not using the technology) to reap more benefits from digital technologies.

Different types of government intervention can lead to divergent effects; dedicated and well-designed policies may encourage civic participation, but direct welfare assistance may lead to the political disempowerment of some groups (Swartz, Blackstone, Uggem, & McLaughlin, 2009). Similarly, Verba et al. (1987) report strong support for institutional interference in reducing participation inequality between different socioeconomic strata across seven countries; however, the patterns of relationships differed for types of participation. In summary, we claim that government intervention through the promotion of ICTs in a country can alter the role of the Internet in socioeconomic stratification in citizen participation. However, because of a lack of empirical findings in this area of research and indecision regarding which socioeconomic strata such interventions would help, we pose the following research question (instead of a hypothesis):

*RQ2: How does government intervention in a country as a contextual factor shape the role of the Internet in civic participation gaps?*

## Method

### Data

This study uses the 2016 Gallup World Poll data. The survey asks a standard set of core questions translated into major national languages to randomly selected, nationally representative samples of the population. The poll provides data from 142 countries, but the data used in the analyses include survey responses from individuals in 108 countries ( $N = 111,213$ ); 34 countries were excluded from analyses because of the unavailability of information about press freedom, government intervention, and other reasons.

### Measures

*Dependent variable.* Respondents in each country were asked whether they have engaged in such activities as donating money, volunteering time to an organization, and helping a stranger in the past month (1 = yes, 0 = no). The Gallup-provided scale of civic participation was constructed by taking the mean of valid items multiplied by 100 ( $M = 33.77$ ,  $SD = 32.14$ ,  $\alpha = .81$ ). Although this three-item Gallup scale is not ideal, it is largely consistent with previous research measuring civic engagement (Nikolova, Roman, & Zimmermann, 2017; Pearce, Freelon, & Kendzior, 2014).

*Independent, moderating, and control variables.* Variables included to predict civic participation, as either independent, moderating, or control variables, were measured at two levels: Level 1 variables, all of which were measured by Gallup World Poll, described individual attributes of survey respondents, and Level 2 variables, compiled from various sources, tapped into characteristics of the countries in which the respondents resided.

*Individual level.* Two key variables, SES and Internet access, were assessed at the individual level. First, an index of SES, the independent variable, was constructed by combining respondents' education and income ( $r = .23$ ). To make respondents' level of education comparable across countries, Gallup classifies the educational attainment into three categories: 1 = elementary education or up to eight years of basic education; 2 = secondary education or 9–15 years of education; and 3 = tertiary education or four years of education beyond "high school" or received a four-year college degree ( $M = 1.84$ ;  $SD = .68$ ). Income (per capita annual income) was measured on a 5-point scale relative to other respondents in that country ranging, from 1 (*poorest 20%*) to 5 (*richest 20%*;  $M = 3.21$ ;  $SD = 1.42$ ). Second, Internet access was measured by asking respondents if they had access to the Internet in any way, whether on a mobile phone, a computer, or some other device (yes = 55%). This measure of Internet access was employed as an individual-level moderating variable in our analyses.

Other demographic variables were included as controls in all analyses: age ( $M = 42.90$ ,  $SD = 18.34$ ) and gender (male = 45%). Also, several variables were considered for control. First, individuals' access to telecommunications services was measured by asking respondents if they had a landline telephone in their home that they use to make and receive personal calls (yes = 36%) and if they have a mobile phone that they use to make and receive personal calls (yes = 84%).

Because our independent variables include an evaluation of government's success in ICT intervention (and not a direct measure of intervention), we also included a control for confidence in government ( $M = .55$ ,  $SD = .50$ ,  $Min = 0$ ,  $Max = 1$ ) to make the analyses more robust.

Next, a range of variables that have been considered relevant to civic participation was employed as controls. Life evaluation was measured by asking respondents to evaluate the status of their lives (1 = *thriving/good*, 2 = *struggling/average*, and 3 = *suffering/worst*). A higher score means more difficulty in life ( $M = 1.85$ ,  $SD = .62$ ,  $Min = 1$ ,  $Max = 3$ ). The financial life evaluation measured respondents' economic situations and the economics of the community where they live. A higher score suggests a greater satisfaction of the financial condition in which the respondents live ( $M = 33.14$ ,  $SD = 30.20$ ,  $Min = 0$ ,  $Max = 100$ ). Similarly, the social life index assesses a respondent's social support structure and opportunities to make friends in the city or area where he or she lives. A higher score suggests greater social opportunities ( $M = 69.09$ ,  $SD = 39.64$ ,  $Min = 0$ ,  $Max = 100$ ).

Negative emotion was measured as respondents' well-being across several negative dimensions (e.g., anger, sadness, stress) on the day before the survey ( $M = 30.28$ ,  $SD = 30.27$ ,  $Min = 0$ ,  $Max = 100$ ). Personal health was measured as respondents' perceptions of their health status across physical and mental health dimensions (e.g., physical pain, worry). A higher score suggests self-perceptions of good health ( $M = 67.87$ ,  $SD = 29.06$ ,  $Min = 0$ ,  $Max = 100$ ). Community attachment was measured as respondents' satisfaction with the city or area where they live and their likelihood to move away or recommend that city or area to a friend. A higher score suggests greater attachment to the community ( $M = 76.17$ ,  $SD = 31.57$ ,  $Min = 0$ ,  $Max = 100$ ). Last, community satisfaction was measured as respondents' satisfaction with the environment, housing, and infrastructure where they live. A higher score suggests greater satisfaction of everyday life in the community ( $M = 59.59$ ,  $SD = 28.84$ ,  $Min = 0$ ,  $Max = 100$ ).

*Country level.* Several sociopolitical and economic characteristics of each country were measured: press freedom, government intervention in the promotion of ICTs, Internet bandwidth, Internet penetration, Human Development Index (HDI), the national level of education, and income inequality. Of these, the first two measures, press freedom and government intervention, served as country-level moderators conditioning the role of Internet access in socioeconomic stratification of citizen participation. The index of press freedom was constructed by combining press freedom scores for each country from two sources: Freedom House (2016) and Reporters Without Borders (2016). These scores, ranging from 0 (*complete media freedom*) to 100 (*no media freedom*), were reversed and averaged to create an index where higher score means more press freedom (e.g.,  $Press\ Freedom_{Vietnam} = 20.37$ ,  $Press\ Freedom_{Finland} = 90.20$ ;  $M = 61.91$ ,  $SD = 16.26$ ,  $r = .87$ ). Next, the government's intervention in the promotion of ICTs was assessed by the 2015 World Economic Forum Executive Opinion Survey. The question aggregated at the country level asked each respondent in the survey to what extent he or she believed that his or her government is successful (1 = *not successful at all*; 7 = *extremely successful*) in promoting the use of ICTs ( $M = 3.97$ ,  $SD = .71$ ).

All other country-level differences were included for control. First, a set of variables capturing societal level of Internet infrastructure included Internet penetration ( $M = 48.21$ ,  $SD = 28.65$ ) and Internet bandwidth ( $M = 144.37$ ,  $SD = 671.19$ ). Second, indicators of each country's socioeconomic development

included HDI, the national level of education, and income inequality. The 2015 United Nations Development Program (UNDP; United Nations Development Program, 2015) HDI scores for the three-dimension indices (health, education, and standard of living) are aggregated using a geometric mean into a composite index (0 to 1) where higher scores suggest greater socioeconomic development ( $M = .73$ ,  $SD = .15$ ). The national education inequality provided by the 2015 UNDP reflects the inequality in the distribution of years of schooling estimated using the Atkinson inequality index ( $M = 17.97$ ,  $SD = 14.14$ ). Similarly, national income inequality measures the inequality in income distribution within the country ( $M = 23.70$ ,  $SD = 10.44$ ). Including HDI and inequality controls in our analyses will enable us to test the relationships among SES, Internet use, and civic participation while controlling for structural socioeconomic developments.

### Results

Given the hypotheses and research questions posed in this study and the characteristics of the data, we adopted multilevel hierarchical modeling, which allows evaluating the relationships among the variables at both the within- and between-country comparisons. To analyze the nested data, we employed hierarchical linear modeling (HLM 7.03). We conducted a two-level HLM analysis with  $N = 111,213$  respondents nested in 108 countries with civic participation as the outcome variables. The individual differences were entered at Level 1, and the country characteristics were grand mean centered at Level 2. Five regression models were specified using two-level hierarchical data to test the hypotheses and answer the research questions. As the first step, an empty/null model was estimated without any single explanatory variable at any level. This model is set to assess group variability and individual variability within groups as random effects. As observed (Model 0 in Table 1), a significant amount of variance in civic participation existed between countries, with an intraclass correlation coefficient of 0.104, indicating that nearly 10.4% of the variance in civic participation is attributable to country-level differences. This pattern of variance decomposed into two levels (i.e., individuals and countries) can be considered an empirical justification for multilevel modeling.

A second model (Model 1 in Table 1) was specified to account for civic participation only with individual-level factors, including two core predictors (i.e., SES for H1 and Internet access for H2) and controls. Except for a random effect for country-level variance, this model is comparable to an OLS regression model with pooled data from multiple countries. The control variables included the demographic variables, telecommunications variables, confidence in government, life assessment variables, community assessment variables, personal health, and negative emotion. As reported in Table 1 (Model 1), beyond all these controls, individuals' SES was found to be a significant predictor of civic participation ( $B = 1.48$ ,  $SE = .08$ ,  $p < .001$ ), thereby supporting H1. The positive correlation between SES and civic participation also signifies that there exists a gap in civic participation between low- and high-SES individuals. In sum, the results suggest that citizens belonging to the higher socioeconomic strata are more likely to participate in civic activities than their lower SES counterparts. The findings are consistent with the civic voluntarism model (Verba et al., 1995) and suggest a participation gap between citizens across most of the world.

Data also support H2, indicating that even after considering all the control variables and individuals' SES, access to the Internet ( $B = 4.97$ ,  $SE = .28$ ,  $p < .001$ ) does increase the likelihood of civic participation (Model 1 in Table 1). This result points toward the promising role of the Internet in

civic participation. As for control variables, we found that the older citizens, men, those with landline and mobile phone access, and those who positively evaluated their financial life and the government all significantly engaged in more civic activities. Similarly, those who evaluated more difficulty in their lives were less likely to engage in civic participation.<sup>1</sup>

Our next model (Model 2 in Table 1) is specified to consider country-level variables as additional controls in assessing the effects of individuals' SES and Internet access on civic participation. The results suggest that the introduction of a variety of country-level differences does not alter the direct influence of SES and Internet access on participation; previously observed relationships continue to be statistically robust. Of the Level 2 variables, there was a positive association between the degree of press freedom and civic participation ( $B = .15$ ,  $SE = .07$ ,  $p < .05$ , Model 2 in Table 1), with individuals living in more freer countries being more engaged in civic activities than those in restricted states. Countries with greater government intervention in ICT use were also more likely to engage in civic participation ( $B = 3.72$ ,  $SE = 1.43$ ,  $p < .05$ ).

Although the preceding set of results establishes the positive role of SES and the Internet in explaining civic participation, an important goal of this study is to explore if the Internet reduces (H3) or amplifies (H4) socioeconomic stratification in civic participation after considering individual and country-level differences. Thus, an interaction term between SES and Internet access was estimated with the individual- and country-level control variables. As shown in Model 2 of Table 1, the two-way interaction was statistically significant ( $B = .68$ ,  $SE = .15$ ,  $p < .001$ ).

**Table 1. Multilevel Regression Predicting Civic Participation.**

Fixed Effects	Model 0	Model 1	Model 2	Model 3
Level 1 (Individual Level)				
Intercept	33.89*** (1.01)	24.29*** (1.31)	24.03*** (1.26)	23.93*** (1.27)
Age	–	.06*** (.01)	.06*** (.01)	.06*** (.01)
Gender	–	1.55*** (.21)	1.55*** (.21)	1.55*** (.21)
Landline Access	–	3.41*** (.28)	3.47*** (.28)	3.49*** (.28)
Mobile Access	–	4.58*** (.32)	4.71*** (.32)	4.77*** (.32)
Confidence in Government	–	1.30*** (.23)	1.25*** (.231)	1.24*** (.23)
Life Evaluation	–	–2.87*** (.20)	–2.87*** (.20)	–2.86*** (.20)
Financial Life Evaluation	–	.09*** (.00+)	.08*** (.00+)	.08*** (.00+)
Social Life Evaluation	–	–.04*** (.00+)	–.04*** (.00+)	–.04*** (.00+)
Negative Emotion	–	.07*** (.01)	.07*** (.01)	.07*** (.01)
Personal Health	–	.00+ (.01)	.00+ (.01)	.004 (.01)
Community Attachment	–	.02*** (.00+)	.02*** (.00+)	.016*** (.00+)
Community Satisfaction	–	–.01 (.00+)	–.01 (.00+)	–.01 (.00+)

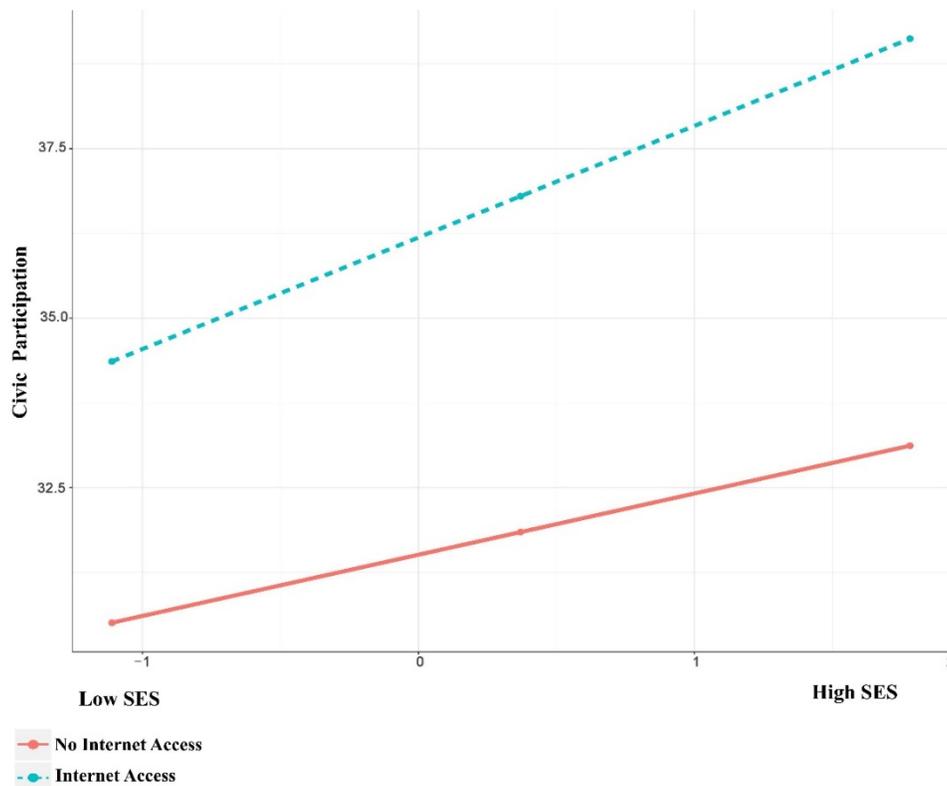
<sup>1</sup> We also ran reduced models without the attitudinal and psychological controls used in this study. The results, specifically the direction and significance of beta values, were consistent with the results presented in Models 1–3.

SES	-	1.48*** (.08)	1.07*** (.12)	1.23*** (.13)
Internet Access	-	4.97*** (.28)	4.85*** (.28)	4.90*** (.29)
SES * Internet Access	-	-	.68*** (.15)	.47** (.16)
Level 2 (Country Level)				
Internet Bandwidth	-	-	-.00 (.00 <sup>+</sup> )	-.00 <sup>+</sup> (.00 <sup>+</sup> )
Internet Penetration	-	-	-.02 (.08)	-.02 (.09)
HDI	-	-	-16.06 (16.27)	-15.76 (16.24)
National Education Inequality	-	-	.07 (.11)	.070 (.11)
National Income Inequality	-	-	.22** (.09)	.22** (.09)
Govt Intervention	-	-	3.72* (1.43)	3.80* (1.44)
Press Freedom	-	-	.15* (.07)	.14* (.07)
Cross-Level Interactions				
SES * Govt Intervention	-	-	-	.28 (.20)
SES * Press Freedom	-	-	-	.03** (.01)
Internet Access * Govt Intervention	-	-	-	.11 (.39)
Internet Access * Press Freedom	-	-	-	.01 (.02)
SES * Internet Access * Govt Intervention	-	-	-	-.51* (.25)
SES * Internet Access * Press Freedom	-	-	-	-.01 (.01)
Random Effects				
Level 1 variance	926.71	909.44	909.24	909.09
Level 2 variance	108.01***	80.33***	67.93***	67.72***

Note. Entries are unstandardized HLM coefficients with standard errors in parentheses.

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

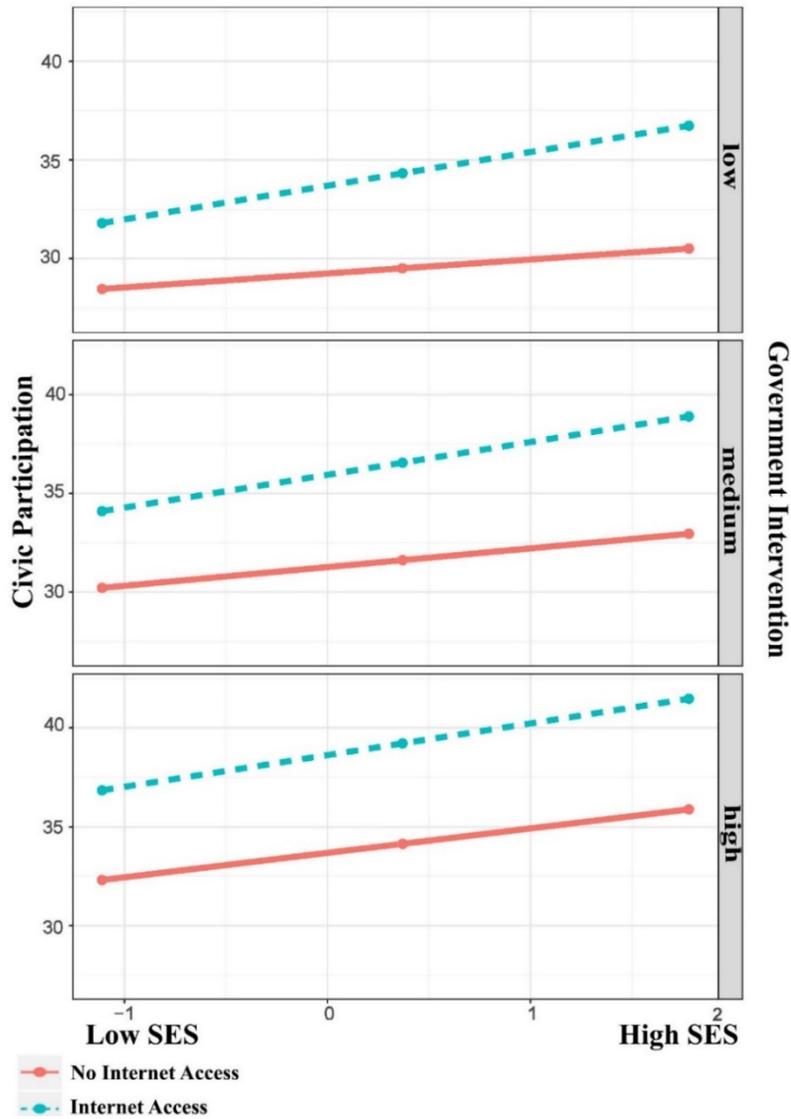
The interaction illustrated in Figure 1 helps interpret the main findings. The pattern of the significant positive interaction shows that the socioeconomic stratification in civic participation, as indicated by the link between SES and civic participation, is greater for those who have access to the Internet. This finding suggests that Internet access deepens the socioeconomic gap in participation in countries across the world, casting a shadow over the optimistic expectation of the equalizing role of the Internet in democracies.



**Figure 1. Two-way interaction between SES and Internet access.**

At the next step, we introduce cross-level interactions where we investigate whether and how macro-level contextual variables (i.e., press freedom for RQ1 and government intervention for RQ2) moderate the interactive relationship between individuals' SES and Internet access in predicting civic participation. To assess this three-way interaction (SES  $\times$  Internet access  $\times$  country-level context), we included all possible two-way interactions in addition to the focal three-way interaction terms in the regression equation. As shown in Table 1 (Model 3), there was no significant three-way interaction among SES, Internet access, and press freedom ( $B = -.01$ ,  $SE = .01$ ,  $p = .21$ ), suggesting that the two-way interaction between SES and Internet access on civic participation is not a function of how free the press system of a country is. However, the interaction involving SES, Internet access, and government intervention was significant ( $B = -.51$ ,  $SE = .25$ ,  $p < .05$ ), which indicates that the pattern of two-way interaction between individuals' SES and Internet access in explaining civic participation is different depending on levels of government intervention. As government intervention increases, the interaction between individuals' SES and Internet access becomes weaker. That is, in countries where government intervention is one standard deviation higher than the average of 108 countries, the overall levels of participation are higher than in other countries, whereas the difference between the low and high SES remains constant regardless of Internet access (see Figure 2). Thus, our results confirm that the likely effects of the Internet on participation inequality do not occur in a vacuum, but are dependent on contextual

factors. More specifically, government efforts in promoting ICT serve as an institutional context under which the Internet can potentially reduce (or at least not amplify) existing socioeconomic gaps in civic participation.



**Figure 2. The three-way interaction among SES, Internet access, and government intervention.**

## Discussion

Our findings provide some insights into the role of the Internet in socioeconomic stratification in civic participation. First, as per H1, we found that socioeconomic inequality in civic participation is not limited to advanced democracies. Individuals with a higher SES are more likely to participate in civic activities across most of the world (at least among the 108 countries analyzed in this study). Research in the last four decades has consistently found similar findings—however, the unique contribution of the present study is a replication at a wide, cross-comparative level, which includes many previously unexplored countries.

Second, with our exploration of the direct effect of Internet access on civic participation, it is not surprising to witness that individual access to the Internet increases the likelihood of civic participation. The rapid growth of the Internet in the last two decades, accompanied by a wide range of participatory affordances, has enabled the formation of more rooted communities and a newer and faster way to engage in various civic activities. The Internet thus has transformed the pattern and nature of civic participation to some degree; as such, much of civic participation that occurred in the offline realm now happens online. Internet penetration continues to grow worldwide. Accordingly, one can assume that more citizens will discover ways to use the Internet for civic purposes.

Nevertheless, it would be naïve to ignore the perils associated with the modern-day political shape of the Internet that threatens participatory action. The Internet often provides a communication environment that promotes incivility, fake news, selective exposure, echo chambers, and political polarization, some of which can directly or indirectly delimit participation (Shah et al., 2017). Our findings identify the strong positive association between individual Internet access and civic participation, observed across a diversity of geopolitical contexts. From Chad, Myanmar, and Guinea, which have less than 3% access, to Denmark, Iceland, and the Netherlands, which have greater than 90% access, our findings provide an optimistic outlook toward the democratic role of the Internet. In doing so, they corroborate previous studies that have investigated the role of the Internet in minimally wired societies such as Ethiopia (Gagliardone & Pohjonen, 2016) and Myanmar (Aricat & Ling, 2016).

The next important question investigated in this study was whether access to the Internet empowers the privileged or acts as a leveling factor for the marginalized individuals. Whereas previous cross-national comparative studies have investigated this question mostly within the advanced democratic contexts, our findings provide a much larger overview of the role of the Internet across the globe. Our findings point to a cautionary view where access to the Internet increases participatory inequality. That is, individuals belonging to the higher SES are better able to exploit the Internet for political purposes, as compared with individuals with lower SES. These patterns are not surprising considering that previous research acknowledges that equal access to the Internet does not imply that all sections of the society will engage in an equally enriching behavior. If anything, these findings highlight the need for more efforts by governments and policy institutions to not only minimize the digital divide, but also conduct effective interventions to help develop computer skills and impart digital literacy among the lower SES sections.

All the findings discussed earlier hold even after we consider the interplay of a range of structural factors. The data suggest that civic participation worldwide is better explained by individual-level factors.

Nevertheless, this does not necessarily imply that civic participation occurs almost completely at the individual level, independent of country-level contexts, particularly those considered in our study. Given that civic participation by nature takes place largely in local contexts, a narrower contextual unit such as community would be more relevant than the country. That said, there still exist possibilities in which certain country-level factors influence the ways certain individual-level factors are connected to civic participation. It is here that the strength of our multilevel and cross-level approach enables us further to tease out the mechanisms by which certain institutional factors can have a direct or indirect influence on individuals' civic participation.

In our test for three-way interactions, we found that press freedom as a contextual factor does not influence the reinforcing role of the Internet, but government intervention through the promotion of the use of ICTs can help control the socioeconomic stratification in civic participation facilitated by the Internet. Traditionally, press freedom is a vehicle for participatory action; empirical evidence confirms that higher press freedom contributes to more political knowledge and political participation. The null relationships of press freedom in this study may be in the context of a noncontentious form of participation, which is relatively safer, is noninvasive for authorities, and thus is not significantly impacted by media censorship. Future scholars should replicate these questions for contentious forms of participation, where a likely effect of press freedom would be more observable. This question becomes more critical given that more governments than ever before are restricting information on the Internet to curb protests and mass demonstrations (see the Freedom House 2017 report).

In contrast, government promotion of ICT use did have a significant impact on controlling the inequality gap exacerbated by the Internet. These findings are in line with recent research, which confirms that government intervention can empower the marginalized in civic participation (Dralega, Due, & Skogerbø, 2010; McHenry, 2011). On a macro scale, since 2001, the UNDP has focused on governance using ICT services to involve the poorest and the most marginalized members of society in democratic processes (United Nations Division for Public Administration and Development Management, 2016). These findings reflect ground reality and showcase future direction for policy decision-making. We recommend that more efforts are required to raise literacy levels and promote awareness among the marginalized sections of societies. Such efforts are especially critical for inclusive governance in authoritarian and nonadvanced democracies such as Ghana, Nigeria, Senegal, and Uganda (Fraser-Moleketi & Senghor, 2011; Kalemera, Nalwoga, & Wakabi, 2012). Furthermore, interventions should be tailored to social contexts, to both "avoid setting an untenable expectation and anticipate reactions to breaches of the status quo" (J. Gottlieb, 2016, p. 105). Therefore, the findings highlight the theoretical need to account for sociocontextual information while hypothesizing the mobilizing versus reinforcing role of the Internet or its overall effect on civic participation.

Finally, we conclude by acknowledging some caveats and making recommendations for future work. First, the survey instruments constrained us only to consider Internet access. It is plausible that a more sophisticated set of Internet "use" variables—for example, relational use or social media news consumption—would lead to a richer set of findings. However, existing evidence of non-civic/political use of the Internet transforming into civic benefits (Tewksbury et al., 2001; Valeriani & Vaccari, 2016) and the results presented in this study help advance the idea that access to the Internet in itself can help civic

engagement, though it is more beneficial for the higher SES strata. Second, a more objective measure of government intervention (e.g., nature of ICT policies) rather than the one used here would have been more robust, but to our knowledge, these were the only cross-national data available. We hope the measure used here, after controlling for government support, is a good proxy measure reflecting the on-the-ground quality of government intervention in a country. Third, we conducted a multilevel investigation and focused on the most important predictor of civic participation (i.e., SES); a model that included resources alternative to SES (such as group membership and cohesion) could have provided deeper insights. Future studies could explore the role of alternative resources in participation gaps. Fourth, while this study investigated the most prevailing SES-based participatory inequality, future scholars should use the framework to explore other forms of inequality in participation, including gender, age, and race. To further establish the generalizability of the findings, future researchers should conduct multilevel and cross-national comparative investigations with longitudinal data to improve on the present research framework.

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