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Digital activism and democratic culture: can digital technologies help save democracy?

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This study investigates digital activism and democratic culture among citizens of São Paulo, Brazil. It aims to understand: 01. whether digital participation is becoming a surrogate instance of other forms of participation; and 02. whether digital activists share a specific political culture regarding democratic attitudes and behaviors. Drawing on a representative sample of 2,417 interviews, we apply multivariate analysis techniques to characterize digital activists in terms of political participation and democratic culture. Our findings show that digital participation complements – rather than replaces – other forms of participation. We also found that although the levels of democratic culture among digital-only activists were lower than among activists who participate in several arenas, digital-only activists embrace democratic culture more significantly than non-activists. This finding suggests that digital-only participation could be an important first step in developing democratic attitudes in individuals, albeit this form of participation is not sufficient to foster the highest level of democratic culture.
Keywords: Digital democracy; Digital activism; Political participation; Democratic culture; Local democracy.

This article addresses the issue of digital activism among citizens of São Paulo, the main Brazilian metropolis. Throughout the country's history, the city of São Paulo has been portrayed as one of the most important venues for political participation, as illustrated by the Constitutionalist Revolution in 1932, the March of the Family with God for Liberty in 1964, the civil unrest demanding direct presidential elections (*Diretas Já*) in 1984, and the June Journeys in 2013, just to mention a few (LACERDA and SIMONI JR., 2021). In face of growing risks of democratic deconsolidation around the world (FOA and MOUNK, 2017), we investigate the digital technologies' potential to restore the ordinary citizens' appreciation for democracy, as these technologies provide new means for political participation and engagement in social causes. However, the synergy between the digital world and the democratic regime has never been taken for granted within political theory. In fact, even the question of the extent to which political participation is beneficial for democracy has been the subject of heated debate among political theorists.

In democratic theory, political participation typically refers to the behavior of the citizenry intended to affect politics, and it has been seen as a factor of vitality (PUTNAM, 2015), legitimacy (FISHKIN, 2015), and influence (VERBA and NIE, 1972) in the regime. Although the definition of political participation is disputed, most contemporary scholars agree that, by and large, it refers to a voluntary activity in which people engage as citizens to affect the political domain, although it might not occur within that domain *per se* or be directed to politics in the strict institutional sense (DETH, 2014). Scholars in the field disagree – according to their theoretical perspective – about the extent to which citizen participation in the political regime is beneficial. For instance, participatory theorists claim that political participation should be widespread in democracies, while institutionalist theorists argue that it would be better for democracy to have rather limited channels for participation available to the general public.

The participatory theory of democracy has for a long time advocated in favor of expanding people's influence on politics (FISHKIN, 2015; PATEMAN, 1992). Such influence should be promoted mostly by advancing a myriad of arenas for political participation, including conventional forms of participation, such as voting in elections or engaging in political parties' activities, and unconventional ones, such

as joining civil society associations or public demonstrations (VERBA and NIE, 1972). More recently, a new arena for political participation has attracted much of scholars' attention due to its pervasiveness in contemporary societies. We refer to digital participation, which gained momentum after the emergence and diffusion of the new information and communication technologies in the last decades of the 20th century. Currently, no political scientist could ignore the role of technology in shaping world politics via digital transformation, although we still cannot be sure if digital technologies are best characterized by the idea of a 'new era' or a 'false hope' for democracy (DIAMOND, 2010).

Either way, the rise of digital democracy is currently an unavoidable reality. One of its basic tenets is precisely to foster participation within civil society (GOMES, 2016). However, it is still not clear if this new political arena complements other arenas or grows at their expense. As technological change and political modernization go hand-in-hand (BIJKER, 2006), technologically-advanced societies transfer innovative and knowledgeable outlooks to politics, favoring democratic institutions and forms of participation that are more dynamic and demanding (INGLEHART and WELZEL, 2009). Nevertheless, users of mass media technologies might also be seen as potentially more isolated, apathetic, and distant from community life (PUTNAM 2015).

At the same time, a growing number of governments have been using digital tactics to harass opponents and control digital media in their countries, raising concerns over the use of technology to authoritarian ends.[1] After all, scholars have not yet reached a consensus about whether the net result of such technological change has been mostly positive or negative for democracy (FUKUYAMA, 2020). In particular, most scholars have not properly addressed the relationship between the new digital technologies available for political participation and the democratic culture of its users, although a few recent studies have shown that different political cultures – both in consolidated and in new democracies – affect the use of these technologies by the citizenry differently (VACCARI and VALERIANI, 2018).

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[1] For instance, the 'Election watch for the digital age', a new research initiative led by the Freedom House, has been investigating the interplay between digital platforms and election integrity. After analyzing 40 elections and referendums between 2018 and 2020, it found that 88% of them had been subject to some sort of digital interference (see <https://freedomhouse.org/report/election-watch-digital-age>).

This study seeks to fill this gap in the literature by investigating digital political participation and democratic culture among citizens in the city of São Paulo in 2019. Based on a representative sample of 2,417 household interviews, we intend to examine: 01. whether digital political participation is replacing or complementing other forms of participation; and 02. whether the individuals whose participation is rather restricted to the digital world embrace a political culture that is different from that embraced by those who participate in various arenas. Our findings suggest that digital participation complements rather than replaces other forms of participation; we have identified activists who participate in both digital and non-digital arenas and activists whose participation is limited to the digital world. Furthermore, the results indicate that digital-only activists embrace a weaker democratic culture compared to citizens who participate in various arenas, although they appear to have stronger democratic features compared to non-activists.

In addition to this Introduction, the article is structured as follows: Section 02 reviews the literature on the intersection of political participation and digital democracy; Section 03 details the data and methods used in this study; Section 04 presents the results and discusses their main implications; Section 05 concludes by providing some final remarks and pointing out the limitations of our analysis and possible avenues for future research.

Political participation and digital democracy

There is wide consensus in political science that no regime could be a democracy without guaranteeing formal rights for all its adult citizens to participate in politics (DIAMOND and MORLINO, 2017). The basic premise here is that people who are affected by political decisions must, to some extent, be a part of the decision-making process. However, how extensive participation should be is precisely the point of disagreement among two general perspectives in political theory. On the one hand, scholars associated with a more minimalist or institutionalist view of democracy argue that the political participation of ordinary citizens should be minimal, confined mostly to suffrage and electoral activities (SCHUMPETER, 2008). From this perspective, limited participation – and even public apathy – plays a key role in buffering the shocks in public opinion, which is usually uninformed and uninterested (POSNER, 2005). Therefore, politics should be

left to the political elites and representative institutions who would remove the risk of tyranny of the majority by making the political process less passionate and more professional (HAMILTON, MADISON, and JAY, 2011).

On the other hand, scholars associated with a more maximalist or participatory view of democracy claim that the minimalist understanding of ordinary citizens is a sort of self-fulfilling prophecy: by refusing to foster more engaged citizens, the institutionalist approach eventually produces apathetic individuals who are uninterested in politics. The premise of the participatory approach, in contrast, is that a participative system eventually becomes self-sustainable, as the qualities required to be a good citizen are those promoted by the participatory process itself (PATEMAN, 1992). In this vein, the core argument for a participatory democracy relies on the idea that the act of participating might have an "educational function", insofar as people who participate politically learn to be good citizens by enhancing their sense of efficacy, getting more information on public issues, increasing their tolerance toward opinions other than their own, hence acquiring some form of "public spirit" (FISHKIN, 2015).

Although the minimalist/institutionalist approach has been widely acknowledged as the contemporary mainstream view on democracy (GAMA NETO, 2011; PERES, 2008), it has been challenged by the growing crises of democracy around the globe, which are mostly institutional crises of representative democracy (MOISÉS, 2019; MOISÉS and WEFFORT, 2020; NOGUEIRA, 2014). As expected, the participatory approach inspires many of the proposals to save democracy, such as open democracy (LANDEMORE, 2020), local democracy (MORAES and DANTAS, 2021), and organizational democracy (BARRETT, 2017), all of them deeply connected to the original participatory claims arguing that, for democracy to function well in its higher level (nations or states, for instance), it must first be fostered in its lower levels (cities, neighborhoods, industries, organizations, among others), where individuals can develop the qualities required to be proper citizens (PATEMAN, 1992).

Another participatory arena has emerged under the umbrella of digital democracy, as opportunities for people to engage in the political process have proliferated in the last years mainly due to technological changes in the digital world

(BERNHOLZ, LANDEMORE, and REICH, 2021; FREELON, MARWICK, and KREISS, 2020). During the early days of digital democracy, in the 1970s and 1980s (when it was called "electronic democracy"), social movements played a key role in advocating for these technologies, arguing that "society would be better transformed from the bottom up and the coordination of local actors rather than through the conquest of the state central apparatus" (VEDEL, 2006, p. 228) – a statement that is closely aligned with the main claims of the participatory approach. Not surprisingly, most scholarly work in Brazil has adopted the social perspective of digital democracy (which focuses on the implications of the new media for civic engagement) and not its institutional perspective (which focuses on the implications of digital technologies for political institutions and governments) (NICOLÁS, BRAGATTO, and SAMPAIO, 2013). However, the impacts of digital technologies on democracy are often overstated when presented as a solution to current problems of political legitimacy, but they are also underestimated whenever fundamental changes in political practices resulting from these technologies are not recognized (BIJKER, 2006).

The digital environment has been widely seen as capable of endowing citizens with new and powerful resources to participate in political decision-making and community life (GOMES, 2016). New digital technologies can help improve both "top-down" information, allowing governments to share contents of public interest with society, and "bottom-up" mechanisms that enable the creation of new spaces for public debate (HELD, 2006). Some authors, on the other hand, have expressed skepticism toward the suggestion that these technologies could change politics (MARGOLIS and RESNICK, 2000; NORRIS, 2003); others have even compellingly argued that technology (especially when embodied in big corporations) can be a threat to democracy (JASANOFF, 2006; MOROZOV, 2018).

The issues of political polarization and fake news in the digital world are particularly concerning for democracy in the contemporaneity. Bakshy et al. (2015) identified significant polarization on Facebook, where liberal and conservative individuals share "hard" stories mainly in groups of ideologically-aligned users, thus reinforcing their preexisting political inclinations. Lazer et al. (2018) also found this "echo chamber" effect in social media environments, where

individuals are likely to receive personalized political information, thus creating an arena less conducive to pluralist dialogue. These authors also concluded that online platforms are the ideal environment for disseminating fake news – with tools such as ads and social media content sharing, which has had devastating consequences for regime stability. Although the political effects of fake news must be further addressed, it is already clear that big technology corporations can no longer ignore the implications of social media platforms for democracies, and should thus acknowledge that online users are not simply consumers, but also democratic citizens (CHAMBERS, 2020).

With respect to the digital world's influence on political participation specifically, scholars have wondered for some time whether online participation is a completely new and different phenomenon that stands out from several forms of offline participation, asking whether it draws in new people, is caused by other factors, or has new drastic political consequences (VISSERS and STOLLE, 2014). In other words, it seems fair to question, for example, whether digital political participation is replacing other forms of participation, or whether it is a complementary participatory arena. Some authors have criticized digital participation, arguing that it involves low-cost, simple online activities; therefore, it would not constitute a truly participatory act (STOLLE, HOOGHE, and MICHELETTI, 2005; VISSERS and STOLLE, 2014). Moreover, some have claimed that addressing political concerns with a mouse click might nurture the wrong idea that individuals are contributing to changing the world, when, in most cases, they are not (BARNEY, 2010).

In his study of this issue using survey data in the United States, Dalton (2017) found that, while online participation has, to some extent, replaced offline participation, the former contributes to an overall increase in political participation. However, since individuals who are best educated and resourced tend to be more active online, digital tools can end up widening the political participation gap between people with different social status (DALTON, 2017). Similarly, Schlozman et al. (2018) also investigated whether online participation allows for new individuals to be included in participatory arenas or only reproduces the unequal offline landscape. They observed that online political participation seems to follow the same unbalanced patterns that are dominant across different socioeconomic

status, even though this trend does not necessarily mean that the online environment is merely a reproduction of the offline environment, as at least younger generations tend to use the internet more, raising their political voice (SCHLOZMAN, BRADY, and VERBA, 2018).

Other studies, however, have reached different conclusions and presented better prospects for the role of digital technologies in enhancing democracy and political participation. A recent study on the student protests in Chile from 2011 to 2016 found that, although financial and human resources are important factors in explaining digital activism, other variables, such as the political stance of the movement leadership and the political contexts in which the movements operate, also play a key role in shaping the different forms of digital political participation (BÜLOW, VILAÇA, and ABELIN, 2019). In shifting the focus to the issue of participation intensity, Cantijoch et al. (2016) found evidence of a continuous increase in digital political participation, with individuals gradually moving from less intense political engagement, such as accessing online media and news, to more active forms of political participation, such as e-discussion, thus advancing what the authors call the "political participation ladder".

As one might see, there is a clear divide in the literature between those who are skeptical about the potential benefits of digital technologies for democracy (NORRIS, 2001; SCHLOZMAN, BRADY, and VERBA, 2018) and those who are optimistic about the possibility that digital technologies – and their low-cost information – promote equal opportunities for political participation, thus fostering a well-functioning democracy (CALDERÓN and CASTELLS, 2021; CASTELLS, 2002; VACCARI, 2017). Scholars in the second group expect to find among online activists people who are usually blocked from voicing their opinions, such as those from lower socioeconomic backgrounds or those who feel politically powerless (VISSERS and STOLLE, 2014). Scholars in the first group, however, stress that digital participation seems to benefit citizens of higher social classes – the wealthier, well educated, and politically interested, hence reinforcing traditional political inequalities (XENOS and MOY, 2007). Some have even argued that there is a dominant and privileged high-tech minority in the online environment whose excessive participation could covertly silence the voice of the underprivileged majority, a process named "participatory despotism" – the participation of a few

with the appearance of representing "the voice of the people" (SANTINI and CARVALHO, 2019).

Going back to the institutionalists' concerns regarding people's broad participation in politics, we notice that the fear of tyrannic behavior from the masses was one of the main arguments used to limit political participation (HAMILTON, MADISON, and JAY, 2011). Therefore, it could be that scholars from the skeptical perspective are applying to digital democracy the same reasoning that long ago led institutionalist theorists to fear widespread political participation. However, it would be a mistake to attribute this digital "participatory despotism" behavior to every citizen or nation who is more engaged virtually due to the new digital technologies available. To make sense of the thin line between democratic and authoritarian digital participation, we propose to examine the cultural context in which engaged citizens are immersed, i.e., their political culture.

The modern political culture approach was inaugurated in the post-war period by Gabriel Almond and Sidney Verba's seminal book The Civic Culture: Political Attitudes and Democracy in Five Nations. In this book, the authors conceive of political culture as a set of cognitive, affective, and evaluative orientations that citizens have toward social and political objects (ALMOND and VERBA, 1989). To the extent that such orientations make the citizenry prone to engage actively in the political life and adhere to democratic norms and values of moderation, trust, tolerance, and the like, a so-called "civic culture" (or "democratic culture", as some contemporary authors would prefer to call it) would prevail in a given context (ALMOND, 1989; DIAMOND, 1994, 2015). Moreover, according to this body of literature, the proper functioning and survival of democracy at its macro-level is deeply linked to the values and orientations at the micro-level, in other words, a democratic culture is an important condition to a sustainable democratic consolidation (INGLEHART and WELZEL, 2009). Hence the need to examine the political culture of digital activists and assess whether their values and behaviors are consistent with those expected from democratic citizens; in doing so, we may identify the actual potential of digital technologies in helping save contemporary democracy.

In this vein, Vaccari and Valeriani (2018) found that institutional legacies and political culture affect the extent to which active citizens take up new opportunities

for informal political conversation in the digital world, as political discussion in social media is more strongly associated with participation – be it institutional or extra-institutional – in established democracies than in "third wave" democracies. Similarly, Mounk (2018) argues that the internet and, particularly, social media have only had such a corrosive impact on democracy around the world because the moral foundations of our political system are getting more and more fragile, even in countries where democracy was supposed to be consolidated, so that anyone who wants to contribute to revitalizing democracy will have to help rebuild it on more stable cultural norms and values.

This article focuses precisely on the relationship between digital political participation and democratic culture to answer the following research questions: 01. Is digital political participation replacing or complementing other forms of participation? 02. To what extent do individuals whose participation is more restricted to the digital world embrace a political culture that is different from that embraced by those who participate in various arenas? In answering these questions and relying on an original database focused on issues of local democracy, we expect to provide a significant contribution to the understanding of the phenomenon of digital democracy and thus find new ways to foster a more democratic culture in our society.

Data and methods

Our database comprises a representative sample of 2,417 interviews with voters in São Paulo (the largest Brazilian metropolis and Latin American city) in 2019. While most of the extant literature has investigated digital political participation in long-established democracies in Europe and North America, here we provide an original analysis of an important Brazilian municipality. The survey was conducted by the Sivis Institute to assess the quality of democracy in São Paulo (INSTITUTO SIVIS, 2019). Multistage probabilistic sampling and the random-walk technique were used to select the households; implicit stratification was based on the income dimension of the Human Development Index (HDI) from the various census sectors, and the disproportionate explicit stratification was based on the regional division of the city, covering eight administrative regions. Non-probabilistic quota sampling was used to select the interviewees, representing the distribution of

the population according to four key socio-demographic variables: sex, age group, education level, and occupational status. The sampling strategy allowed for a confidence level of 95% and a margin of error of 2%.

This database was built to estimate the Local Democracy Index (LDI) for São Paulo. This initiative by the Sivis Institute seeks to tackle the current issue of democratic erosion by emphasizing the nurturing of local democracy (MORAES and DANTAS, 2021; SILVA, 2020). It draws on the idea that the local level might work as a school of democracy since it is closely connected to the daily concerns of citizens (SISK et al., 2015). The local level should thus stimulate participatory decision-making in a civic process of political engagement wherein communities figure out their challenges and find solutions to their collective problems (ELSTUB, 2008).

In addition to these benefits of investigating local democracy, previous research has demonstrated that studying cities is of utmost importance to political science, particularly large metropolises such as São Paulo, which share multiple similarities with other large cities in the country (and potentially across similar countries too) and reproduce its heterogeneity to some extent. In this regard, Dahl (1961), when studying the case of New Haven, Connecticut, said: "Many problems that are almost unyielding over a larger area can be relatively easily disposed of on this smaller canvas" (DAHL, 1961, pp. V-VI). On the other hand, large cities, such as São Paulo, present specific dynamics that may affect the civic culture of their population (OLIVER, 2000), thus limiting the generalizability of our results. However, a city such as São Paulo, the largest in Latin America and one of the main metropolises in the world, certainly offers a valuable multicultural environment for investigating the democratic dynamics in the contemporaneity.

Our main variables of interest comprehend five different arenas of political participation: Electoral Participation; Institutional Participation; Associative Participation; Demonstrative Participation; and Digital Participation. Table A1 in the Appendix details how these and the other variables used in our empirical analysis were measured in the survey. We also created a variable to identify the number of arenas in which each activist participates, ranging from zero to all five. Our definition of "activist" refers to the individual who participates often or always in a specific arena. There are 159 electoral activists, 128

institutional activists, 275 associative activists, 237 demonstrative activists, and 450 digital activists in our sample.

Since our focus is on digital participation, we narrowed down our definition of digital activists to those who are digital-only activists, i.e., individuals who only regularly participate in the digital world. There are 203 individuals who are digital-only activists; they are the focus of our study and will be characterized in terms of socio-demographic attributes and democratic attitudes. We also compare digital-only activists to what we call wide-spectrum activists, individuals who participate regularly in at least three of the five arenas, which might include the digital arena. Wide-spectrum activists amount to 154 individuals who frequently engage in several participatory arenas, which might include elections/political parties, institutions, associations, demonstrations, and the digital world.

With respect to the methodological procedures, we conducted a descriptive and multivariate analysis (Principal Component Analysis - PCA - and regression models) to assess whether digital-only activists could be characterized as a specific group. We paid special attention to variables related to political culture, as we intend to investigate the extent to which these individuals can be linked to the traits that traditionally characterize a civic or democratic culture (ALMOND and VERBA, 1989; INGLEHART and WELZEL, 2009), such as high level of political knowledge (one knows at least one political institution or political measure)[2], high level of willingness to be politically informed (one is often or always informed about politics), high diversity of sources of information (one has access to various sources covering different political perspectives), high level of political tolerance (one says that it is very acceptable that other people have political opinions opposite to one's own), high level of openness to dialogue (one often or always engages in dialogue with individuals who have political opinions opposite to one's own), high level of openness to change (one is very inclined to change one's mind in face of compelling arguments), strong sense of legitimacy of the law (one completely agrees that it is important to comply with the law regardless of whether the politicians in power are those one voted for), strong rejection of democracy

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[2]This variable is operationalized by constructing a dummy from the six specific political knowledge variables listed in the Appendix Table A1.

relativization (one completely disagrees that the government can override laws, Congress, and institutions in order to solve problems in difficult situations), and high level of preference for democracy (one completely agrees that democracy is preferable to any other form of government).

Scholars in the above-mentioned participatory approach have found evidence that political participation is associated with civic skills and other desirable characteristics from citizens in a democratic society. Quintelier and van Deth (2014), for example, demonstrate that democracy and participation have some form of feedback effect: democracy encourages citizens to participate and, in turn, by participating in democratic decision-making processes, citizens strengthen their democratic attitudes. Gastil and Xenos (2010) have also found a reciprocal relationship between participation and civic attitudes, observing that people who wish for more opportunities to participate in public decisions, who are interested in politics, trust the government, and are satisfied with how democracy is working are more likely to support the adoption of tools of direct democracy such as referendums. Therefore, we hypothesize that digital-only participation should translate into incremental improvements in the democratic culture of citizens, although to a lesser degree compared to more diversified forms of activism. Therefore, the hypotheses to be tested are the following:

H1 – Digital-only activists are more culturally democratic than non-activists.

H2 – Wide-spectrum activists are more culturally democratic than digital-only activists.

We applied a PCA technique to reduce the number of participatory arenas to a few dimensions and use them as dependent variables in regression models in which the predictors are the democratic culture variables and socio-demographic controls. Tests for preliminary correlation were made and no significant indication of multicollinearity was identified. Following the recommendations offered by the political science literature regarding the problem of missing data (KING et al., 2001; LALL, 2016), we applied multiple imputation techniques using Markov Chain Monte Carlo (MCMC) procedures to create 5 imputed data sets. Such empirical strategy allows us to obtain robust results to test our hypotheses. A detailed description of the variables used in our models can be found in Table A1 in the Appendix; full results of the regression models from the multiple imputations are presented in

Table A2 in the Appendix. As a robustness check, the regression results without imputation are also presented (Table A3 in the Appendix).

Results and discussion

Table 01 shows the frequencies of political participation across the five different arenas. The most conventional arenas (Electoral[3] and Institutional) are attended less frequently by the citizens, while the least conventional arenas (Associative, Demonstrative, and Digital) create more engagement. The overall low level of political participation observed among citizens of São Paulo is consistent with the data collected for the country as a whole in surveys such as World Values Survey and others (BORBA and RIBEIRO, 2019). Interestingly, the only participatory arena in which more than 10% of individuals declared to participate most frequently (always) is digital participation, which includes political engagement in social media, online discussion forums, e-government consultations and polls, among others. Therefore, in showing that the digital world is the main arena for participation in our sample, our data confirm that digital participation currently has some influence over politics.

Table 01. Frequency of political participation by arena (*n* = 2,417)

	Electoral participation	Institutional participation	Associative participation	Demonstrative participation	Digital participation
Never	75.07%	74.37%	59.31%	69.49%	56.89%
Rarely	11.23%	12.71%	14.61%	12.01%	11.73%
Sometimes	7.51%	7.94%	15.88%	11.33%	15.27%
Often	1.87%	2.14%	3.88%	2.92%	5.86%
Always	4.17%	2.70%	6.18%	4.25%	10.13%
Missing	0.15%	0.14%	0.14%	0.00%	0.12%

Source: Authors' elaboration based on INSTITUTO SIVIS survey (2019).

Table 02 presents the number of arenas in which individuals participate regularly (often or always) and then decomposes it into the number of arenas in which each arena-specific activist (individuals who participate actively in a specific arena) is actively participating. The results show that most citizens are not participating in any arena: 74,03% (1,707 individuals) do not participate regularly

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[3]Since voting is mandatory in Brazil, the category "Electoral Participation" only includes activities such as rallies, electoral debates, caucuses, political parties' meetings and conventions, among others.

in any arena – they are non-activists. The proportion of individuals who are activists in only one arena is 14,53%, and only about 2% of the individuals are activists in four or all five arenas. These numbers show how scarce political participation still is in the context of a major Brazilian city, although it has probably increased in the last years, as since 2013 we have seen frequent large street protests across the country, especially in large metropolises.

As for the data on arena-specific activists in Table 2, we notice that the digital political arena is where the highest proportion of individuals who participate only in one arena is concentrated, with almost 50% of digital-only activists (203 individuals), while a much smaller proportion of activists who participate exclusively in one arena (22,90% and 21,63%, respectively) is in the electoral or demonstrative arenas, for example. Moreover, only about 10% of digital activists participate regularly in four or all five arenas, while this proportion is nearly 30% among electoral activists and nearly 40% among institutional activists. These results highlight how prominent digital-only activists are in the digital political arena in contrast to other arenas (especially the most conventional ones), where there is a higher proportion of activists who also actively participate in several other fronts.

Another way to analyze the data is through the PCA approach, a statistical technique used to analyze correlations between many variables and explain them in terms of their common underlying dimensions by reducing the information in the original variables into a smaller set, known as "principal components" (HAIR et al., 2014). Table 03 presents the PCA results for the political participation variables. Since the first two principal components (PC1 and PC2) account for almost 70% of the cumulative variance, they should be the only ones retained and considered herein for further multivariate analysis.

Interestingly, all factor loadings of PC1 are positive and higher than 0,4, which shows a high correlation between the different participatory arenas and a significant number of individuals who are politically active in several of these arenas. On the other hand, only three factor loadings of PC2 exceed the threshold of 0,4: electoral and institutional participation (which are negative) and digital participation (which is positive). Such results indicate that there is also a significant

number of individuals who are digital-only activists with very low levels of political participation in other arenas, especially those that are most conventional. These results demonstrate that although the digital political arena has offered a new, alternative channel for participation to those who would not participate otherwise, it has not replaced other participatory arenas, since most citizens who actively participate in one arena also tend to participate in others.

Table 02. Number of arenas in which individuals participate regularly, with proportions for each type of arena-specific activist (*n* = 2,417)

Number of arenas	% of all individuals	% from electoral activists	% from institutional activists	% from associative activists	% from demonstrative activists	% from digital activists
0	74.03%	0.00%	0.00%	0.00%	0.00%	0.00%
1	14.53%	22.90%	14.28%	30.87%	21.63%	48.77%
2	6.00%	25.82%	25.27%	29.40%	33.39%	24.24%
3	2.84%	21.22%	23.38%	19.15%	25.61%	14.61%
4	1.66%	22.39%	28.01%	15.46%	12.91%	9.03%
5	0.44%	7.25%	9.06%	4.36%	6.11%	2.74%
Missing	0.50%	0.42%	0.00%	0.76%	0.35%	0.61%

Source: Authors' elaboration based on INSTITUTO SIVIS survey (2019).

Table 04 compares the socio-demographics of digital-only activists, wide-spectrum activists, and non-activists. Data show that the only characteristics of digital-only activists that present statistically significant mean differences when compared with wide-spectrum activists are being younger, poorer, and right-wing. Nevertheless, when compared with non-activists, the only statistically significant mean differences for digital-only activists are being more educated, employed, and richer. Interestingly, the socio-demographics of digital-only activists are closer to those of non-activists than the critics of digital political participation would expect and more distant from the traits of wide-spectrum activists. Indeed, digital-only activists seem to be situated in the middle of two categories, having slightly more resources than the individuals who do not participate politically, but also a slightly lower social status than those who participate on several fronts.

Table 03. PCA results for the political participation variables (*n* = 2,403)

Number of observations	PCs	Eigenvalue	Difference	% of variance	Cumulative %
2,403	PC1	2.6943	1.9563	53.89%	53.89%
Number of components	PC2	0.7380	0.1715	14.76%	68.65%
5	PC3	0.5665	0.0548	11.33%	79.98%
Rho	PC4	0.5117	0.0222	10.23%	90.21%
1	PC5	0.4895	-	9.79%	100.00%
Variables	PC1	PC2	PC3	PC4	PC5
Electoral participation	0.449	-0.430	0.498	-0.059	0.600
Institutional participation	0.455	-0.449	0.088	0.281	-0.709
Associative participation	0.453	-0.120	-0.839	0.027	0.273
Demonstrative participation	0.458	0.368	0.093	-0.769	-0.232
Digital participation	0.418	0.679	0.174	0.570	0.085

Source: Authors' elaboration based on INSTITUTO SIVIS survey (2019).

Table 04. Socio-demographics of digital-only activists, wide-spectrum activists, and non-activists

	Digital-only activists (*n* = 203)	Wide-spectrum activists (*n* = 154)	Non-activists (*n* = 1,707)
% of male	44.17%	55.70%	45.91%
% of young (from 16 to 29 years old)	33.12%	21.68%*	31.73%
% of highly educated (with higher education or more)	34.81%	47.23%	17.86%*
% of employed	64.97%	64.23%	56.65%*
% of high-income (household income above 10 minimum wages)	3.51%	5.07%*	1.90%*
% of non-religious	38.25%	34.05%	30.76%
% of single	45.90%	40.07%	42.14%
% of white	42.09%	46.76%	38.06%
% of left-wing (far-left, left, and center-left of the political spectrum)	29.77%	39.30%*	20.92%

Source: Authors' elaboration based on INSTITUTO SIVIS survey (2019).
Note: * Statistically significant mean difference compared to digital-only activists (T-test: mean ≠ 0 at 5% significance level).

Table 05 presents key political culture variables for digital-only activists, wide-spectrum activists, and non-activists. The results of the significance tests show that digital-only activists have substantially fewer characteristics associated with democratic political culture compared to those who engage in various political arenas. Digital-only activists have lower levels of political knowledge and lower levels of willingness to be politically informed, they are less politically tolerant, less

open to dialogue and change, and more inclined to accept the relativization of democracy. On the other hand, compared to non-activists, digital-only activists have several characteristics that are more aligned with a democratic culture: except for the variable on the rejection of democracy relativization, digital-only activists have significantly more traits of democratic attitude and behavior across all variables examined compared to the group of non-activists.

These results suggest that despite the significant democratic culture gap that still exists between digital-only activists and wide-spectrum activists (the former being considerably less advanced than the latter), the exclusively-digital form of political participation seems to be an important first step in enhancing the civic skills and democratic values of individuals, since digital-only activists are significantly more culturally democratic than non-activists, even though both groups have fairly similar socio-demographic attributes.

Table 05. Political culture of digital-only activists, wide-spectrum activists, and non-activists

|	Digital-only activists (n = 203)	Wide-spectrum activists (n = 154)	Non-activists (n = 1,707)
% of high level of political knowledge	37.24%	46.63%*	27.91%*
% of high level of willingness to get politically informed	64.40%	83.37%*	22.67%*
% of high diversity of sources of information	64.79%	72.55%	28.84%*
% of high level of political tolerance	19.04%	30.47%*	6.86%*
% of high level of openness to dialogue	46.99%	61.61%*	12.58%*
% of high level of openness to change	13.98%	28.82%*	6.17%*
% of strong sense of legitimacy of the law	39.14%	45.26%	27.07%*
% of high level of rejection of democracy relativization	34.66%	51.92%*	28.50%
% of high level of preference for democracy	45.68%	57.90%	29.86%*

Source: Authors' elaboration based on INSTITUTO SIVIS survey (2019).
Note: *Statistically significant mean difference compared to digital-only activists (T-test: mean ≠ 0 at 5% significance level).

As our final statistical procedure, we did a regression analysis with multiple imputations to estimate the strength of the association between political participation and democratic culture, differentiating between a more general political participation and a more specific digital participation. For this purpose, we used the two principal components retained from the PCA presented in Table 03. As mentioned above, PC1 is characterized by high factor loadings across

all participation arenas, and it represents a variable for a more general participation (named "General Participation"). PC2, in turn, is characterized by a high and positive factor loading only for digital political participation, and by substantive factor loadings – although negative – for electoral and institutional participation; PC2 thus represents a variable for digital-only participation (named "Digital Participation"). With these two components as dependent variables, we ran multiple linear regression models using the democratic culture variables from Table 05 as independent variables and the socio-demographic variables from Table 04 as controls. We also included regional dummies for each of the eight administrative regions to control for regional fixed effects and account for the city's territorial heterogeneity; finally, we estimated robust standard errors to avoid heteroskedasticity issues.

Graph 01 presents the main results from the regression models limited to the coefficients and confidence intervals of the independent variables (full results are presented in Table A2 in the Appendix). We found a significant association between general participation and various democratic traits like willingness to get politically informed, openness to dialogue, openness to change, and rejection of democracy relativization. The coefficients obtained are significantly high, as well as their statistical significance. Digital participation, on the other hand, is significantly associated with political knowledge, higher diversity of information sources, and openness to dialogue; however, except for diversity of information sources, the coefficients – and their statistical significance – are considerably low. These results demonstrate that the relationship between digital participation and democratic traits is rather weak in a controlled empirical test. Nevertheless, the figures point in the same direction as the one previously found in the descriptive statistics. The combination of the regression results with the mean difference tests thus gives us the confidence to confirm our two hypotheses: digital-only participation is associated with a slight improvement in the democratic culture of the citizenry (H1), while a broader form of political participation correlates more significantly and deeply with democratic values and attitudes (H2).

Graph 01. Regression Results (with imputation)
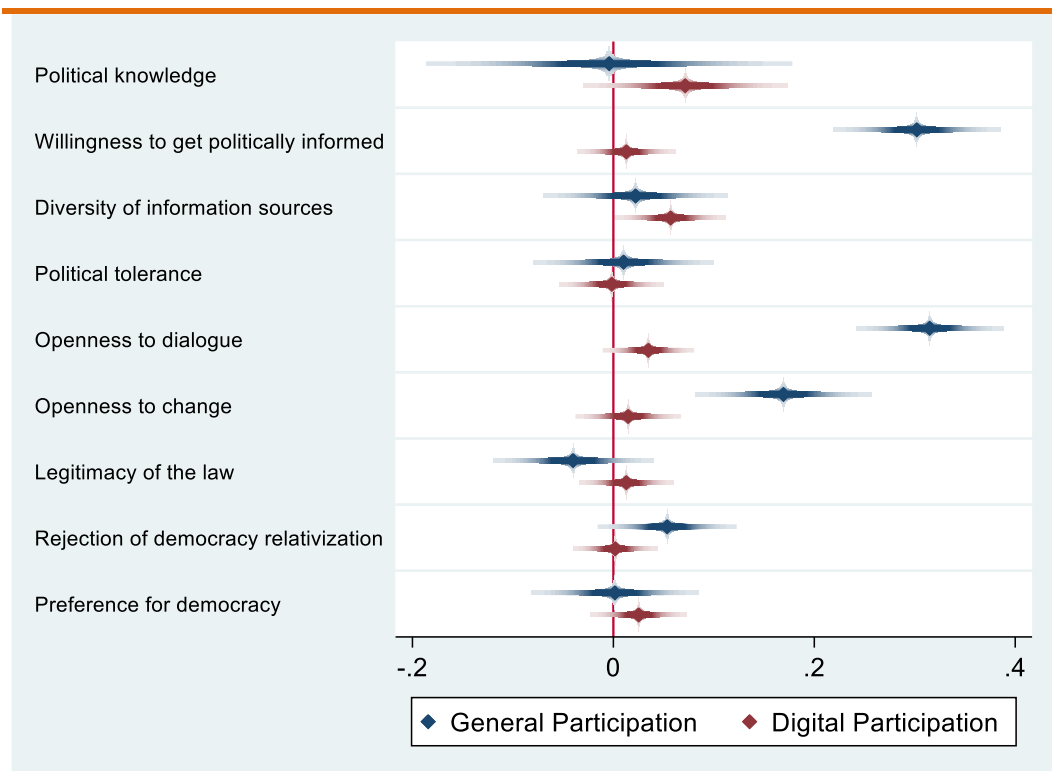
Source: Authors' elaboration based on INSTITUTO SIVIS survey (2019).

Final remarks

This article addressed the relationship between digital political participation and democratic culture among citizens in the city of São Paulo, particularly digital-only activists. As the new information and communication technologies became so pervasive, and therefore so impactful in shaping politics, digital political participation became an essential research topic. Aware of the importance of being cautious with generalizations, we contend that the case of São Paulo, a very socio-demographically complex environment, might shed some light on the interplay between digital technologies and political culture. Moreover, studying the case of São Paulo is innovative as it allows for the issue of digital participation to be addressed from the perspective of a major city in a developing country, one that combines a young democracy with a tradition of authoritarian movements throughout its history, something typically overlooked by the mainstream literature focusing on the developed world.

Our study reveals that political participation is scarce in the city, given that 74,03% of the interviewees in our sample do not participate regularly in any

political arena. In this context, digital political participation was the main participation arena in our sample (the only one with more than 15% of the activists), a result that emphasizes that digital technologies are highly relevant to the political life of the largest Brazilian city. In addition, the digital arena concentrates the highest number of individuals participating in one form of political activism exclusively, with nearly 50% of digital-only activists. Our statistical analyses indicate that digital participation has not replaced other forms of participation but actually opened up a new participation arena for a significant number of individuals who would not participate otherwise. Therefore, instead of a surrogate instance of other forms of participation, the digital arena has been playing the role of a complementary form of participation for the citizens of São Paulo.

Focusing on the digital-only activists, data analysis on socio-demographic and democratic culture variables also provided some interesting findings. Results showed that digital-only activists share a similar proportion of socio-demographic traits with non-activists and wide-spectrum activists, thus positioning them in the middle of these two categories. Since one of the main concerns in the literature refers to the socio-economic gap between activists (typically more privileged in terms of resources and status) and non-activists (typically more marginalized, lacking both resources and status), this result suggests that the digital arena might indeed be an important channel for the inclusion of minority groups in politics.

As for the democratic culture variables, our study confirms that digital-only activists share 01. lower levels of democratic culture traits than wide-spectrum activists but 02. higher levels of democratic culture traits than non-activists. Therefore, hypotheses H1 and H2 were confirmed by the multivariate analysis applied in this study. Since digital-only activists and non-activists have fairly similar socio-demographic attributes, these results suggest that the digital arena may be an important channel for fostering democratic culture. However, as shown by the far better results obtained by wide-spectrum activists, this channel is possibly only a first step toward improving our democratic culture, not the ultimate means to achieve sustainable democracy.

These results also open possibilities for future investigations, for instance, to address: 01. the relationship between different forms of digital political participation and specific variables of democratic culture that we found to be

weakest among digital-only activists (such as rejection of democracy relativization); 02. the mechanisms that contribute to enhancing and sophisticating civic engagement in digital political arenas; and 03. the characteristics of the digital arena that are conducive to democratic political culture. Given how relevant digital participation is in contemporary democracies, tackling these research topics may help to ensure that digital arenas catalyze democratic culture, advancing civic skills in multiple political environments.

References

ALMOND, Gabriel A. (1989), The intellectual history of the civic culture concept. In: *The civic culture revisited*: political attitudes and democracy in five nations. Edited by ALMOND, Gabriel A. and VERBA, Sidney. Newbury Park: SAGE Publications. pp. 01–36.

ALMOND, Gabriel A. and VERBA, Sidney (1989), . *The civic culture revisited*: political attitudes and democracy in five nations. Newbury Park: SAGE Publications. 392 pp..

BAKSHY, Eytan; MESSING, Solomon, and ADAMIC, Lada A. Adamic (2015), Exposure to ideologically diverse news and opinion on Facebook. *Science*. Vol. 348, Nº 6239, pp. 1130–1132.

BARNEY, Darin (2010), 'Excuse us if we don't give a fuck': The (anti-)political career of participation. *Jeunesse: Young People, Texts and Culture*. Vol. 02, Nº 02, pp. 138–146.

BARRETT, Richard (2017), *A organização dirigida por valores:* liberando o potencial humano para a performance e a lucratividade. Rio de Janeiro, Brasil: Alta Books. 447 pp..

BERNHOLZ, Lucy; LANDEMORE, Hélène, and REICH, Rob (eds) (2021), *Digital technology and democratic theory*. Chicago: The University of Chicago Press. 344 pp..

BIJKER, Wiebe E. (2006), Why and how technology matters. In: *The Oxford handbook of contextual political analysis*. Edited by GOODIN, Robert E. and TILLY, Charles. Oxford: Oxford University Press. pp. 681–706.

BORBA, Julian and RIBEIRO, Ednaldo (2019), Political participation: conventional and contestatory. In: *Routledge Handbook of Brazilian Politics*. Edited by AMES, Barry. New York: Routledge. pp. 39–56.

BÜLOW, Marisa von; VILAÇA, Luiz, and ABELIN, Pedro Henrique (2019), Varieties of digital activist practices: students and mobilization in Chile. *Information Communication and Society*. Vol. 22, Nº 12, pp. 1770–1788.

CALDERÓN, Fernando, and CASTELLS, Manuel (2021), *A nova América Latina*. Rio de Janeiro: Zahar. 352 pp..

CANTIJOCH, Marta; CUTTS, David, and GIBSON, Rachel (2016), Moving slowly up the ladder of political engagement: a 'spill-over' model of internet participation. *British Journal of Politics and International Relations*. Vol. 18, Nº 01, pp. 26–48.

CASTELLS, Manuel (2002), *The internet galaxy:* reflections on the internet, business, and society. Oxford: Oxford University Press. 304 pp..

CHAMBERS, Simone (2020), Truth, deliberative democracy, and the virtues of accuracy: is fake news destroying the public sphere? *Political Studies*. Vol. 69, Nº 01, pp. 147–163.

DAHL, Robert A. (1961), *Who governs?* Democracy and power in an american city. New Haven: Yale University Press. 384 pp..

DALTON, Russell J. (2017), *The participation gap: s*ocial status and political inequality. Oxford: Oxford University Press. 280 pp..

DETH, Jan W. van (2014), A conceptual map of political participation. *Acta Politica*. Vol. 49, Nº 03, pp. 349–367.

DIAMOND, Larry (2015), *O espírito da democracia*. Curitiba: Instituto Atuação. 518 pp..

DIAMOND, Larry (2010), Liberation technology. *Journal of Democracy*. Vol. 21, Nº 03, pp. 69–83.

DIAMOND, Larry (ed)(1994), Introduction: political culture and democracy. In: *Political culture and democracy in developing countries.* Boulder: Lynne Rienner. pp. 01–28.

DIAMOND, Larry, and MORLINO, Leonardo (2017), A qualidade da democracia. In: *Para entender a democracia*. Edited by DIAMOND, Larry. Curitiba: Instituto Atuação. pp. 127–145.

ELSTUB, Stephen (2008), *Towards a deliberative and associational democracy*. Edinburgh: Edinburgh University Press. 272 pp..

FISHKIN, James S. (2015), *Quando o povo fala*. Curitiba: Instituto Atuação. 269 pp..

FOA, Roberto Stefan and MOUNK, Yascha (2017), The signs of deconsolidation. *Journal of Democracy*. Vol. 28, Nº 01, pp. 05–15.

FREELON, Deen; MARWICK, Alice, and KREISS, Daniel (2020), False equivalencies: online activism from left to right. *Science*. Vol. 369, Nº 6508, pp. 1197–1201.

FUKUYAMA, Francis (2020), 30 years of world politics: what has changed? *Journal of Democracy*. Vol. 31, Nº 01, pp. 11–21.

GAMA NETO, Ricardo Borges (2011), Minimalismo schumpeteriano, teoria econômica da democracia e escolha racional. *Revista de Sociologia e Política*. Vol. 19, Nº 38, pp. 27–42.

GASTIL, John and XENOS, Michael (2010), Of attitudes and engagement: clarifying the reciprocal relationship between civic attitudes and political participation. *Journal of Communication*. Vol. 60, Nº 02, pp. 318–343.

GOMES, Wilson (2016), 20 anos de política, Estado e democracia digitais: uma 'cartografia' do campo. In: *Democracia digital, comunicação política e redes*: teoria e prática. Edited by SILVA, Sivaldo Pereira da; BRAGATTO, Rachel Callai, and SAMPAIO, Rafael Cardoso. Rio de Janeiro: Folio Digital. pp. 39–76.

HAIR, Joseph; BLACK, William; BABIN, Barry, and ANDERSON, Rolph (2014), *Multivariate data analysis*. London: Pearson Education Limited. 761 pp..

HAMILTON, Alexander; MADISON, James, and JAY, John (2011), *O Federalista*. Lisboa: Fundação Calouste Gulbenkian. 812 pp..

HELD, David (2006), *Models of democracy*. Redwood City: Stanford University Press. 352 pp..

INGLEHART, Ronald and WELZEL, Christian (2009), *Modernização, mudança cultural e democracia*: a sequência do desenvolvimento humano. São Paulo: Editora Francis. 400 pp..

INSTITUTO SIVIS (2019), *Índice de democracia local*: *São Paulo/SP*. Curitiba: Ministério da Cidadania. 56 pp..

JASANOFF, Sheila (2006), Technology as a site and object of politics. In: *The Oxford handbook of contextual political analysis*. Edited by GOODIN, Robert E. and TILLY, Charles. Oxford: Oxford University Press. pp. 745–763.

KING, Gary; HONAKER, James; JOSEPH, Anne, and SCHEVE, Kenneth (2001), Analyzing incomplete political science data: an alternative algorithm for multiple imputation. *American Political Science Review*. Vol. 95, Nº 01, pp. 49–69.

LACERDA, Fabio and SIMONI JÚNIOR, Sergio (2021), A relação entre status socioeconômico, religião, disposições atitudinais e participação política: evidências da cidade de São Paulo. In: *Índice de democracia local*: estudos a partir da experiência de São Paulo. Edited by MORAES, Diego and DANTAS, Humberto. Curitiba: Instituto Sivis. pp. 128–148.

LALL, Ranjit (2016), How multiple imputation makes a difference. *Political Analysis*. Vol. 24, Nº 04, pp. 414–433.

LANDEMORE, Hélène (2020), *Open democracy*: reinventing popular for the Twenty-First Century. Princeton: Princeton University Press. 272 pp..

LAZER, David M. J.; BAUM, Matthew; BENKLER, Yochai; BERINSKY, Adam J.; GREENHILL, Kelly M.; MENCZER, Filippo; METZGER, Miriam; NYHAN, Brendan; PENNYCOOK, Gordon; ROTSCHILD, David; SCHUDSON, Michael; SLOMAN, Steven A.; SUNSTEIN, Cass; THORSON, Emily A.; WATTS, Duncan J., and ZITTRAIN, Jonathan L. (2018), The science of fake news. *Science*. Vol. 359, Nº 6380, pp. 1094–1096.

MARGOLIS, Michael and RESNICK, David (2000), *Politics as usual: the Cyberspace 'Revolution'*. Thousand Oaks: SAGE Publications. 246 pp..

MOISÉS, José Álvaro (2019), On the crisis of democracy. *Journalism and Mass Communication*. Vol. 09, Nº 01, pp. 33–52.

MOISÉS, José Álvaro and WEFFORT, Francisco (2020), *Crise da democracia representativa e neopopulismo no Brasil*. Rio de Janeiro: Konrad Adenauer. 136 pp..

MORAES, Diego and DANTAS, Humberto (eds) (2021), *Índice de democracia local: estudos a partir da experiência de São Paulo*. Curitiba: Instituto Sivis. 241 pp..

MOROZOV, Evgeny (2018), *Big tech*: a ascensão dos dados e a morte da política. São Paulo: Ubu Editora. 192 pp..

MOUNK, Yascha (2018), *The people vs. democracy*: why our freedom is in danger and how to save it. Cambridge: Harvard University Press. 400 pp..

NICOLÁS, Maria Alejandra; BRAGATTO, Rachel Callai, and SAMPAIO, Rafael Cardoso (2013), Internet and politics studies in Brazil: mapping the characteristics and disparities of the research field. *Brazilian Political Science Review*. Vol. 07, Nº 02, pp. 114–140.

NOGUEIRA, Marco Aurélio (2014), Representação, crise e mal-estar institucional. *Sociedade e Estado*. Vol. 29, Nº 01, pp. 91–111.

NORRIS, Pippa (2003), Preaching to the converted?: pluralism, participation and party websites. *Party Politics*. Vol. 09, Nº 01, pp. 21–45.

NORRIS, Pippa (2001), *Digital divide*: civic engagement, information poverty, and the internet. Cambridge: Cambridge University Press. 320 pp..

OLIVER, J. Eric (2000), City size and civic involvement in metropolitan America. *American Political Science Review*. Vol. 94, Nº 02, pp. 361–373.

PATEMAN, Carole (1992), *Participação e teoria democrática*. São Paulo: Paz e Terra. 161 pp..

PERES, Paulo Sérgio (2008), Comportamento ou instituições? A evolução histórica do neo-institucionalismo da Ciência Política. *Revista Brasileira de Ciencias Sociais*. Vol. 23, Nº 68, pp. 53–71.

POSNER, Richard A. (2005), *Law, pragmatism, and democracy*. Cambridge: Harvard University Press. 416 pp..

PUTNAM, Robert D. (2015), *Jogando boliche sozinho*: colapso e ressurgimento da coletividade americana. Curitiba: Instituto Atuação. 369 pp..

QUINTELIER, Ellen and DETH, Jan W. van (2014), Supporting democracy: political participation and political attitudes. Exploring causality using panel data. *Political Studies*. Vol. 62, Nº S1, pp. 153–171.

SANTINI, Rose Marie and CARVALHO, Hanna (2019), The rise of participatory despotism: a systematic review of online platforms for political engagement. *Journal of Information, Communication and Ethics in Society*. Vol. 17, Nº 04, pp. 422–437.

SCHLOZMAN, Kay Lehman; BRADY, Henry E., and VERBA, Sidney (2018), *Unequal and unrepresented: political inequality and the people's voice in the new gilded age*. Princeton: Princeton University Press. 352 pp..

SCHUMPETER, Joseph (2008), *Capitalism, socialism and democracy*. New York: Harper Perennial. 431 pp..

SILVA, Diego de Moraes (2020), Democracia local na cidade de São Paulo: participação e cultura política. *Teoria & Pesquisa: Revista de Ciência Política*. Vol. 29, Nº 02, pp. 01–12.

SISK, Timothy et al. (2015), *Democracia em nível local*: manual de participação, representação, gestão de conflito e governança do international IDEA. Curitiba: Instituto Atuação. 304 pp..

STOLLE, Dietlind; HOOGHE, Marc, and MICHELETTI, Michele (2005), Politics in the supermarket: political consumerism as a form of political participation. *International Political Science Review*. Vol. 26, Nº 03, pp. 245–269.

VACCARI, Cristian (2017), Online mobilization in comparative perspective: digital appeals and political engagement in Germany, Italy, and the United Kingdom. *Political Communication*. Vol. 34, Nº 01, pp. 69–88.

VACCARI, Cristian and VALERIANI, Augusto (2018), Digital political talk and political participation: comparing established and Third Wave democracies. *SAGE Open*. Vol. 08, Nº 02, pp. 01–14.

VEDEL, Thierry (2006), The idea of electronic democracy: origins, visions and questions. *Parliamentary Affairs.* Vol. 59, Nº 02, pp. 226–235.

VERBA, Sidney and NIE, Norman H. (1972), *Participation in America*: political democracy and social equality. Chicago: Chicago University Press. 452 pp..

VISSERS, Sara and STOLLE, Dietlind (2014), The internet and new modes of political participation: online versus offline participation. *Information Communication and Society*. Vol. 17, Nº 08, pp. 937–955.

XENOS, Michael and MOY, Patricia (2007), Direct and differential effects of the internet on political and civic engagement. *Journal of Communication*. Vol. 57, Nº 04, pp. 704–718.

Appendix

Table A1. Definition of the variables

Variable	Definition
Electoral participation	How often the individual participates in electoral activities, such as rallies, electoral debates, caucuses, political parties' meetings and conventions, among others (1 - Never; 2 - Rarely; 3 - Sometimes; 4 - Often; 5 - Always)
Institutional participation	How often the individual participates in institutional activities such as plebiscites, referendums, popular consultations, public hearings, among others (1 - Never; 2 - Rarely; 3 - Sometimes; 4 - Often; 5 - Always)
Associative participation	How often the individual participates in associative activities through civil society organizations such as neighborhood associations, trade unions, social movements, NGOs, among others (1 - Never; 2 - Rarely; 3 - Sometimes; 4 - Often; 5 - Always)
Demonstrative participation	How often the individual participates in demonstrative activities such as public demonstrations, protests, marches, caravans, among others (1 - Never; 2 - Rarely; 3 - Sometimes; 4 - Often; 5 - Always)
Digital participation	How often the individual participates in digital activities such as political engagement on social media, online discussion forums, e-government consultations and polls, among others (1 - Never; 2 - Rarely; 3 - Sometimes; 4 - Often; 5 - Always)
Political knowledge about the municipal government	Whether the individual knows who is the main responsible for formulating the government plan and the budget plan for the city (1 - Does not know/Gave the wrong answer; 2 - Knows about the existence, but does not recall the name; 3 - Mentioned the mayor or City Hall)
Political knowledge about the City Council	Whether the individual knows who is the main responsible for passing laws in the city (1 - Does not know/Gave the wrong answer; 2 - Knows about the existence, but does not recall the name; 3 - Mentioned the city councilors or the City Council)
Political knowledge about the judiciary branch	Whether the individual knows who is the main responsible for guaranteeing the individual, collective, and social rights and for solving conflicts between citizens, entities, and the state (1 - Does not know/Gave the wrong answer; 2 - Knows about the existence, but does not recall the name; 3 - Mentioned judges or the judiciary branch)
Political knowledge about the Public Prosecution Service	Whether the individual knows who is the main responsible for filling charges to defend social interests and ensure public heritage protection (1 - Does not know/Gave the wrong answer; 2 - Knows about the existence, but does not recall the name; 3 - Mentioned public prosecutors or the Public Prosecution Service)
Political knowledge about the Court of Accounts	Whether the individual knows who is the main responsible for overseeing the use of public money and approving public expenditures (1 - Does not know/Gave the wrong answer; 2 - Knows about the existence, but does not recall the name; 3 - Mentioned the ministers of the Court of Accounts or the Court of Accounts)
Political knowledge about the mechanisms by which the people wield influence	Whether the individual knows the three main mechanisms by which the people can influence the government, i.e., Access to Information Law, Popular Initiative Law, Popular Action Law (1 - Does not know/Gave the wrong answer; 2 - Knows about the existence, but does not recall the name of any of the mechanisms; 3 - Mentioned at least one of the three mechanisms)
Willingness to get politically informed	How often the individual is informed about political issues, especially about his/her city (1 - Never; 2 - Rarely; 3 - Sometimes; 4 - Often; 5 - Always)

Diversity of sources of information	How diverse are the sources of information accessed by the individual seeking to be politically informed (1 - Does not get informed about politics; 2 - Few sources; 3 - Various sources, but all from the same political perspective; 4 - Various sources from different political perspectives)
Political tolerance	Which is the individual's level of acceptance of the idea that people have and express political and moral opinions opposite to his/her own, even when these opinions challenge or hurt his/her values (1 – No acceptance; 2 – Low level of acceptance; 3 – Medium level of acceptance; 4 – High level of acceptance)
Openness to dialogue	How often the individual engages in dialogue with people with political opinions that are different from his/her own (1 - Never; 2 - Rarely; 3 - Sometimes; 4 - Often; 5 - Always)
Openness to change	In the context of a political discussion, which is the individual's level of willingness to change his/her mind if the person with which he/she is discussing presents convincing arguments (1 – No willingness; 2 – Low level of willingness; 3 – Medium level of willingness; 4 – High level of willingness)
Legitimacy of the law	Degree to which the individual agrees with the statement: "It is important to comply with the laws and the government regardless of whether the politicians in power are those I voted for" (1 - completely disagrees; 2 - partially disagrees; 3 - partially agrees; 4 - completely agrees)
Rejection of democracy relativization	Degree to which the individual disagrees with the statement "When there is a difficult situation, it doesn't matter if the government overrides the laws, Congress, and institutions in order to solve problems" (1 - completely agrees; 2 - partially agrees; 3 - partially disagrees; 4 - completely disagrees)
Preference for democracy	Degree to which the individual agrees with the statement "Democracy is preferable to any other form of government, regardless of the circumstances" (1 - completely disagrees; 2 - partially disagrees; 3 - partially agrees; 4 - completely agrees)
Sex (Male)	Whether the individual is female or male (0 - Female; 1 - Male)
Age	Current age of the individual in years
Educational level	Which is the highest education level attained by the individual (1 - No formal education or incomplete primary school; 2 - Complete primary school or incomplete secondary school; 3 - Complete secondary school or incomplete higher education; 4 - Complete higher education and more)
Occupational status	Whether the individual worked in the last 7 days as an employee, self-employed, employer, or unpaid worker (0 - Unemployed; 1 - Employed)
Income bracket	Which is the average nominal income bracket in the individual's household (0 - Up to 1 minimum wage; 1 - From 1 to 2 minimum wages; 2 - From 2 to 5 minimum wages; 3 - From 5 to 10 minimum wages; 4 - from 10 to 20 minimum wages; 5 - More than 20 minimum wages)
Religiosity (non-religious)	Whether the individual belongs to any religion or religious group (0 - Belongs to some religion; 1 - Does not belong to any religion)
Marital status (married)	Whether the individual is currently married (0 - Not married; 1 - Married)
Ethnicity (white)	Whether the individual identifies himself/herself as white (0 - Not white; 1 - White)
Political position (Left-Right)	Where the individual places himself/herself in the left-right political spectrum (0 - Far-left; 1 - Left; 2 - Center-left; 3 - Center; 4 - Center-right; 5 - Right; 6 - Far-right)
Administrative regions	Which is the administrative region of the city in which the individual lives (1 - Downtown; 2 - East I; 3 - East II; 4 - North I; 5 - North II; 6 - West; 7 - South I; 8 - South II).

Source: Authors' elaboration based on INSTITUTO SIVIS survey (2019).

Table A2. Results of the regression models (with imputation)

	General participation	Digital participation
Political knowledge	-0.00415	0.0715*
	(0.0696)	(0.0394)
Willingness to get politically informed	0.302***	0.0130
	(0.0323)	(0.0190)
Diversity of sources of information	0.0221	0.0571***
	(0.0357)	(0.0213)
Political tolerance	0.0102	-0.00147
	(0.0349)	(0.0201)
Openness to dialogue	0.315***	0.0349**
	(0.0285)	(0.0177)
Openness to change	0.169***	0.0148
	(0.0340)	(0.0204)
Legitimacy of the law	-0.0401	0.0129
	(0.0311)	(0.0183)
Rejection of democracy relativization	0.0536**	0.00183
	(0.0268)	(0.0163)
Preference for democracy	0.00156	0.0252
	(0.0324)	(0.0186)
Sex (male)	0.0544	0.0987***
	(0.0581)	(0.0361)
Age	0.00419*	-0.00555***
	(0.00219)	(0.00131)
Educational level	0.00113	0.0375**
	(0.0318)	(0.0188)
Occupational status	0.0456	0.0142
	(0.0586)	(0.0354)
Income bracket	0.0301	0.0309
	(0.0339)	(0.0200)
Religiosity (non-religious)	0.0588	0.0283
	(0.0618)	(0.0371)
Marital status (single)	0.0919	0.00794
	(0.0612)	(0.0369)
Ethnicity (white)	-0.0624	0.0944***
	(0.0587)	(0.0363)
Political position (left-right)	-0.0554***	-0.0133
	(0.0191)	(0.0117)
Regional dummies	YES	YES
Constant	-2.369***	-0.587***
	(0.218)	(0.132)
Observations	2,417	2,417

Source: Authors' elaboration based on INSTITUTO SIVIS survey (2019).
Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table A3. Results of the regression models (without imputation)

	General participation	Digital participation
Political knowledge	-0.0257	0.0548
	(0.0797)	(0.0499)
Willingness to get politically informed	0.343***	0.0231
	(0.0434)	(0.0261)
Diversity of sources of information	-0.00749	0.0609**
	(0.0457)	(0.0277)
Political tolerance	0.00642	0.00525
	(0.0451)	(0.0266)
Openness to dialogue	0.333***	0.0244
	(0.0381)	(0.0229)
Openness to change	0.128***	0.0249
	(0.0430)	(0.0271)
Legitimacy of the law	-0.0488	0.0197
	(0.0411)	(0.0251)
Rejection of democracy relativization	0.0886**	0.00728
	(0.0349)	(0.0221)
Preference for democracy	0.0147	0.0233
	(0.0414)	(0.0250)
Sex (male)	0.141*	0.0913*
	(0.0764)	(0.0481)
Age	0.00411	-0.00649***
	(0.00284)	(0.00181)
Educational level	-0.00285	0.0269
	(0.0422)	(0.0247)
Occupational status	0.0645	0.0152
	(0.0784)	(0.0475)
Income bracket	0.0290	0.0162
	(0.0439)	(0.0255)
Religiosity (non-religious)	0.0840	0.0168
	(0.0804)	(0.0478)
Marital status (single)	0.0360	-0.0245
	(0.0818)	(0.0490)
Ethnicity (white)	-0.0480	0.109**
	(0.0761)	(0.0482)
Political position (left-right)	-0.0950***	-0.00389
	(0.0244)	(0.0148)
Regional dummies	YES	YES
Constant	-2.732***	-0.510***
	(0.309)	(0.179)
Observations	1,519	1,519
R-squared	0.335	0.073

Source: Authors' elaboration based on INSTITUTO SIVIS survey (2019).
Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1