The impact of the far-right on Twitter during the 2019 Spanish elections

El impacto de la ultraderecha en Twitter durante las elecciones españolas de 2019

O impacto da extrema direita no Twitter durante as eleições espanholas de 2019

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ABSTRACT | The two 2019 Spanish elections, held on April 28 (28A) and on November 10 (10N), were marked by the irruption of the far-right populist party Vox, which went from 23 to 52 deputies. The aim of this research is to analyze the impact of its emergence in the structure of the communities (Smith et al., 2014) of political debate networks on Twitter during these two elections. The study also compares the structures of the two 2019 elections with those of 2015 and 2016, as well as the political distances between the main Spanish parties. The analyzed sample is made up of more than 1.5 million tweets published during the electoral campaigns of 28A and 10N. Although previous research shows that, in general, interaction patterns and networks structures tend to remain stable after the repetition of an election this research shows a substantial change in the structure of RON communities (Guerrero-Solé, 2017) and in the distances between parties. Specifically, the research shows an increase in the distance between the two main Spanish political blocs –the one formed by the triple right wing (PP, Cs and Vox) and the one constitutes by left and nationalist parties– and (2) the location of Vox in the center of the right-wing cluster.

KEYWORDS: Twitter; social media; political communication; election campaign; Spain; Spanish far-right; Vox; structure of communities.

RESUMEN | *Las dos elecciones españolas de 2019, celebradas el 28 de abril (28A) y el 10 de noviembre (10N), estuvieron marcadas por la irrupción del partido Vox, populista de extrema derecha, que pasó de 23 a 52 diputados. El objetivo de esta investigación es analizar el impacto de su irrupción en la estructura de las comunidades (Smith et al., 2014) de las redes de debate político durante estas dos elecciones en Twitter. El estudio compara además las estructuras de las dos elecciones de 2019 con las de 2015 y 2016, así como las distancias políticas entre los principales partidos españoles. Las muestras analizadas se componen de más de 1,5 millones de tuits publicados durante las campañas electorales del 28A y el 10N. Aunque las investigaciones anteriores muestran que, en general, los patrones de interacción y las estructuras de las redes tienden a permanecer estables después de la repetición de unas elecciones, esta investigación muestra un cambio sustancial en la estructura de las redes de intersección de comunidades de retuiteadores RON (Guerrero-Solé, 2017) y en las distancias entre partidos. Específicamente, la investigación evidencia un incremento de la distancia entre los dos principales bloques políticos españoles –el formado por la triple derecha (PP, Cs y Vox) y el constituido por partidos de izquierda y nacionalistas– y (2) la ubicación de Vox en el centro del clúster de las opciones de derecha.*

PALABRAS CLAVE: *Twitter; medios sociales; comunicación política; elecciones; España; ultraderecha española; Vox; estructura de las comunidades.*

RESUMO | As duas eleições espanholas de 2019, celebradas no 28 de abril (28A) e o 10 de novembro (10N), foram marcadas pela irrupção do partido populista de extrema direita Vox, que passou de 23 a 52 deputados. O objetivo desta pesquisa é analisar o impacto da irrupção de Vox na estrutura das comunidades (Smith et al., 2014) das redes de debate político durante as duas eleições no Twitter. O estudo compara também as estruturas das duas eleições de 2019 com as de 2015 e 2016, além das distancias políticas entre os principais partidos espanhóis. As mostras analisadas se compõem de mais de 1,5 milhões de tuítes publicados durante as campanhas eleitorais do 28A e o 10N. Ainda que as pesquisas anteriores mostremm que, em geral, os padrões de interação e as estruturas das redes tendem a permanecer estáveis depois da repetição de umas eleições, esta pesquisa mostra uma mudança significativa na estrutura de redes de interseção das comunidades RON (Guerrero-Solé, 2017) e nas distâncias entre partidos. Em particular, a pesquisa evidencia (1) um incremento das distâncias entre os dos principais blocos políticos espanhóis, e as distâncias entre o bloco da triple direita (PP, Cs e Vox) e o bloco dos partidos de esquerda e nacionalistas, e (2) a localização de Vox no centro do cluster das opções da direita.

PALAVRAS-CHAVE: Twitter; mídia social; comunicação política; eleições; Espanha; extrema dereita espanhola; Vox; estruturas das comunidades.

INTRODUCTION

Social networks, as spaces for public debate, are currently a privileged source of access to knowledge about the interactions between different social actors. Concerning political debates, Twitter has positioned itself as one of the main spaces for interaction. Its characteristics, as well as the fact that access to data through APIs (Application Programming Interface) and their processing and analysis are much more accessible than those of other social networks (Bruns, 2019a), have made it a preferred object of research in the field of political communication. There are many studies that, from different perspectives, have analyzed the interactions between social actors in political conversations on Twitter. From the pioneering work of Tumasjan and colleagues (2010), whose aim was to predict electoral outcomes based on Twitter activity, to the myriad of studies in a wide range of contexts, political communication research has considered this microblogging network as a fundamental source of data. One of the fields of research that has been most studied on Twitter is the detection of community structure. The results, which mostly conclude that political interactions are homophilic in nature and that political communities tend towards greater distancing and polarization, have now put the focus on the consequences derived from the so-called echo chambers and filter bubbles (Bruns, 2019b).

Another aspect that has drawn the attention of researchers is the influence of populisms and extreme right-wing political movements on social networks and the role they play in the dissemination of their messages (Daniels, 2018). Thus, since Donald Trump's victory in the American elections in 2016, concern about the negative impact that networks can have on today's societies has been on the rise. This has been coupled with the fear of the spread of fake news, which puts social networks back in the spotlight (Allcott & Gentzkow, 2017).

This paper aims to analyze the interactions between political actors in Twitter debates during the April and November 2019 election campaigns in Spain. The study specifically focuses on the impact that the far-right populist party Vox had on the community structure of the networks in both elections. To do so, we use the RON (Retweet Overlap Network) method of community identification. The results obtained are compared with those already published on the 2015 and 2016 general elections in Spain (Guerrero-Solé, 2018; Mas Manchón & Guerrero-Solé, 2019), in which Vox was a marginal party. Likewise, political distances are analyzed through data obtained with the RON method, and compared with those of previous elections. This paper adds insights to the impact of the emergence of the ultra-right as a relevant political force in the structuring dynamics of social networks.

Twitter and political communication

There is no doubt that Twitter has become one of the main social networks for political debate and, due to its characteristics and ease of access to its data, the network of choice for communication researchers, specifically in cases of numerical analysis with large amounts of data (Arcila Calderón et al., 2021). This is even more understandable if we consider the difficulties in obtaining data from social networks such as Facebook and Instagram after the Cambridge Analytica scandal in 2018, and which has provoked what Bruns (2019a) has baptized as *Apicalypse*, or the impossibility for academics to be able to critically and independently scrutinize large platforms.

Among the wide range of research focused on Twitter (see Jungherr's 2014 compilation work on political communication research published to date), those focused on detecting communities or interaction groups stand out (Conover et al., 2011; Boutet et al., 2012). A social network has a community structure when it can be divided into subgroups of users with intense connections between them (Xie & Szymanski, 2011). Fortunato (2010) reviews some of the most widely used community detection algorithms. Among them, the LPA (Label Propagation Algorithm) proposed by Raghavan and colleagues (2007) was used by Boutet and co-workers (2012) in their analysis of the 2010 British elections. For Conover and colleagues (2011), the LPA is a useful method to detect political clusters, assuming that users retweet messages related to their own ideology. The same premise is the basis of the RON analysis method of intersection networks of retweeting communities (Guerrero-Solé, 2017) that has been used for the analysis of political communities in Spain. Azaouzi and colleagues (2019) compile the state of the art of different community detection methods in large-scale social networks.

Generally, research focused on the community structure of political debate networks concludes that they are significantly polarized, following the pattern of what Smith and colleagues (2014) call polarized crowds. The topology of polarized crowds is explained, fundamentally, on the basis of homophily (Hanna et al., 2013; Bessi et al., 2016). Ideological groups tend to isolation and mutual ignorance, with little dialogue between parties and voters (Marín-Dueñas et al., 2019), giving rise to the so-called echo chambers (Sunstein, 2001, 2009, 2017; Pariser, 2011; Barberá et al., 2015; del Vicario et al., 2016). This has generated great concern about how social networks are undermining democracy (Tucker et al., 2017). However, there is other research that questions the impact of networks on political polarization and show that exposure to different versions of reality is nowadays more frequent due to a multitude of contextual factors (Wojcieszak & Mutz, 2009; Bakshy et al., 2015; Boxell et al., 2017). These investigations call into question the very existence of echo chambers (Bruns, 2019b).

Populism and extreme right-wing

Despite the doubts, the issue of polarization continues to occupy a place of relevance within the set of concerns of today's democracies. This has been combined with two more factors that have become the preferred subject of recent research: the spread of rumors and fake news, and the rise of populism (Mudde, 2004; Rooduijn, 2014), especially that of the extreme right, in Western democracies. The growth of the populist far right is a cause for concern in Europe (Golder, 2016). Currently, extreme right-wing parties have a relevant role in countries such as Hungary, France, or Poland, and have participated in coalition governments in Austria, Italy, or the Netherlands (Golder, 2016). This trend towards the growth of the extreme right is seen as a threat to liberalism (Ikenberry, 2018), and represents the culmination of what Von Beyme qualifies as the third wave of right-wing extremism. The characteristics of the far-right are ethnocentrism, anti-pluralism, anti-individualism, hypertrophied nationalism, and missionary attitudes (von Beyme, 1988), as well as its commitment to radical actions, including violence (Norris, 2005; Crosset et al., 2019).

Populism has turned social networks into the main instrument for disseminating its simplistic and emotional messages (Taggart, 2000; Klinger & Svensson, 2015), which tend to reduce reality's complexity (Engesser et al., 2017a). Although the literature on populism is extensive and has a long tradition, the victory of Donald Trump in the 2016 U.S. elections and the rise of far-right movements in Western democracies –Hungary, Italy, Austria, or the United Kingdom, in Europe, and Brazil in South America, are obvious–, has boosted research on the contribution of social networks to the populism's success. Populism has always made use of alternative media to traditional media to spread its message (Engesser et al., 2017b). There are authors who have linked the populist movement to new technologies, and there are even positions that explain populism from the evolution of communication technologies. Thus, social networks are a crucial element for the existence and success of populism. The disintermediation favored by social networks (Engesser et al., 2017a; Bracciale & Martella, 2017) has caused populist parties to enjoy greater freedom in criticizing elites (Klinger & Svensson, 2015; Suiter et al., 2018).

The far-right has made strategic use of social media. As Crosset and colleagues (2019) point out, a large majority of research on far-right and digital media has focused on content analysis (Atton, 2006; Berger, 2018; McSwiney, 2020), the dissemination of disinformation in far-right media (Faris et al., 2017; Pierri et al., 2020), the influence of far-right leaders and their media (Pérez Curiel, 2020), or the transnationality of far-right discourse (Caiani & Kröll, 2015; Froio & Ganesh, 2019). However, there has also been a growing interest in analyzing the structures

of far-right parties in social networks (Caiani & Wagemann, 2009; Caiani & Parenti, 2013). In this vein, Twitter offers some unique features for the analysis of far-right users' online interactions (Crosset et al., 2019). McSwiney (2020), for example, has analyzed the structure in communities and the activity on Twitter (and also on Facebook) of the Australian far-right, concluding that they do not form a homogeneous structure and that many of the far-right parties are a radicalization of center-right positions. In Spain, Caiani and Parenti (2013) analyzed the online structure of far-right media on the Internet. One of the conclusions was the scarce use of digital media by the Spanish far right. If they used them, they did so to disseminate content nostalgic for fascism, Nazism, and Francoism, without a transnational strategy. More recent studies have focused on the Twitter influence of the Spanish far-right in campaigning, such as in the 2018 Andalusian regional elections (Rivas-de-Roca et al., 2020).

Vox, the far-right in Spain

Bipartisanship had characterized Spanish politics since the early 1980s. PSOE and PP governments had alternated until the 2010s elections. However, the economic and institutional crises transformed the political scenario and two new forces appeared on it. The left-wing *Podemos* and the center-right *Ciudadanos* emerged as alternatives to the traditional parties, while the so-called nationalist and separatist parties in Catalonia and the Basque Country strengthened their positions in the Congress of Deputies (table 1).

However, in 2019 *Vox* managed to become the third political force by parliamentary representation, going from 24 deputies in the elections of April 28, 2019, to 52 in those of November 10, 2019 (Minder, 2019). Until the April 2019 elections, *Vox* had not won a single seat. Its first major electoral success was in the Andalusian regional elections, in which it obtained 11% of the vote, which meant 12 deputies in the Andalusian parliament. However, political circumstances in Spain, the rise of far-right populism in other European countries and, specifically, the Catalan separatist challenge and the situation arising from the referendum for the independence of Catalonia held on October 1, 2017 (Minder, 2019; Turnbull-Dugarte, 2019; Hedgecoe, 2019), boosted Abascal's party in 2019, after having obtained a meager 0.2% of the votes in the 2015 and 2016 elections. According to Vampa (2020), the territorial element is key to understanding *Vox*'s success in 2019. In this regard, *Vox* achieves its best results in provinces of territories not mobilized in terms of territorial demands. Moreover, the percentage of votes is higher in those areas where there has been a greater influx of immigration (Vampa, 2020). However, Rinken (2019) questions whether anti-immigration attitudes explain *Vox*'s voting behavior.

Party	Deputies April 2019	Deputies November 2019
PSOE	123	120
PP	66	89
VOX	24	52
UP	42	35
ERC	15	13
Cs	57	10
JxCAT	7	8
PNV	6	6
EH-B	4	5
MP	-	3
CUP	-	2
Other	6	7

Table 1. Results of the last two general elections in 2019 in Spain

Source: Own elaboration based on information from the Spanish Home Office
(http://www.interior.gob.es/elecciones-generales-10n).

Thus, if since the early 2010s the growth of alternative political forces to the two-party system –*Ciudadanos*, center-right, and *Podemos*, inclusive left-wing populism (Vampa, 2020)– was observed in Spain, in 2019 it was far-right populism that took a privileged place within the Congress of Deputies. Its success alarmed both the nationalist and left-wing parties, due to the possible pact between the triple right (PP, Cs and *Vox*), and the right-wing parties (PP and Cs), who feared the fragmentation of the right-wing vote, which forced them to sharpen their discourse (Jones, 2019), and move closer to that of *Vox*.

Vox is a party founded in 2013 as a result of a split from the *Partido Popular* (PP) and as a consequence of the moderation of the PP under the leadership of Mariano Rajoy (Jones, 2019). *Vox* had been an irrelevant party until 2018 (Vampa, 2020). Its current president, Santiago Abascal, had militated in the Basque PP, and was the architect of the current party's radicalization (Ferreira, 2019). Its political equivalents at the European level are Marine Le Pen or Geert Wilders, and have Steve Bannon, Donald Trump's strategist, as a reference (Ferreira, 2019). Ferreira (2019) classifies *Vox* as a far-right party, or radical right, by analyzing seven characteristics: nationalism, nativism, authoritarianism, anti-democracy, populism, traditional values, and neoliberalism. For the author, *Vox*'s discourse is more nationalist than populist.

Vox defines itself as the voice of the living Spain, the guarantee of the indissolubility of the nation. In its *Founding Manifesto*, the party denounces the State's degradation and the corruption of the political system that puts the government of the nation at the mercy of its enemies. Following the guidelines of populist movements, *Vox* considers that Spain is suffering a systemic crisis that affects its economy and its institutions, as well as its unity and collective morale. This crisis requires action to restore order and to confront the power exercised by the political and media elite. *Vox* is, finally, a defender of the Spanish monarchy and a party whose ideology is based on nostalgia for strong leadership.

Vox and social media

In the early 2010s, Spanish far-right parties hardly used digital media to disseminate their messages, which were mainly nostalgic (Caiani & Parenti, 2013). However, at the end of the same decade, *Vox*, along with *Podemos*, both recently created Spanish parties, are the ones with the greatest impact on networks such as Instagram or Twitter (Abuín-Vences & García-Rosales, 2020). *Vox* is right now one of the most active parties in Spain (Jones, 2019). In general, it has carried out grassroots strategies to expand its influence beyond the intermediation of traditional media (Turnbull-Dugarte, 2019) and to force its political opponents to respond to its provocations (Jones, 2019). Moreover, its strategies on Twitter, as well as on other social networks such as Facebook, Instagram, or Tik Tok, are characterized by simplicity, direct and belligerent language, and with the intention of disqualifying the political opponent (Castro Martínez & Días Morilla, 2021).

However, the presence of the Spanish far-right on social networks has been little researched until today. This research aims to expand knowledge about the impact of *Vox* on Twitter during the last two campaigns of the 2019 general elections in Spain.

Considering the above, the research questions of this study are as follows:

RQ1. How were the political communities structured in the April and November 2019 election debates and what differences are observed between the 2019 structures and those of the 2015 and 2016 elections?

RQ1.1. What role does the far-right populism of *Vox* play in these structures?

RQ2. What are the ideological distances between parties in the April and November 2019 elections and which differences are observed between those distances and those of the 2015 and 2016 elections?

RQ2.1. What are *Vox*'s distances from the rest of the political parties and how are they interpreted?

METHOD AND SAMPLE

To answer the research questions, we will use the method developed by Guerrero-Solé and López González (2019) called retweet overlap network (RON), which analyzes the retweets of the users with the highest dissemination in a given conversation, and calculates the intersections between these users' retweeters communities. This technique is analogous to co-citation, and allows discovering the structure of communities, as well as some of the latent attributes of the users participating in the discussion (Guerrero-Solé, 2018). In addition to being an effective method for the identification of communities, it has also been used to calculate distances between political parties that have been related to ideological distance and to voters' preferences to form pacts after elections (Guerrero-Solé et al., 2014; Guerrero-Solé, 2018; Guerrero-Solé & López-González, 2019). For a detailed explanation of the method, which uses the Jaccard coefficient to calculate distances, see Guerrero-Solé and López-González (2019).

The samples detailed below were collected using Twitter's Search API (Gómez-Domínguez et al., 2016). The data used for the analysis are two samples from the April 28 (28A) and November 10 (10N) 2019 election campaigns:

> *EG28A*: sample of 1,259,324 tweets and retweets published during the election campaign in April 2019 that contained the hashtag #28A.

> *EG10N:* sample of 5,081,222 tweets and retweets published during the election campaign in November 2019 containing the hashtag #10N.

The data were stored in databases for processing and analysis. As in previous studies, we selected the 1,000 most retweeted users from both conversations, and identified their retweeting communities from the retweets obtained during the collection process. Subsequently, using Jaccard's coefficient, we numerically calculated the intersection between communities. This value is used for the construction of the resulting networks. Thus, two users are connected in the RON network if they share at least one retweeter in their respective communities of retweeters. The fact that Jaccard's coefficient gives us a value that can be identified as the intensity of the connection between users also allows the construction of the resulting networks from threshold values. Thus, the communities most strongly connected through their retweeters' communities are identified, and facilitate the identification of the latent attributes of the rest of the users in the network.

Subsequently, we identified the most influential users in four categories: parties and politicians, media, journalists, and a final category that includes the rest of the users that do not belong to any of the three previous categories.

RESULTS

To answer the first research question on the structure of political communities in the April and November 2019 election debates and the observed differences between the 2019 structures and those of the 2015 and 2016 elections, we constructed the two RON networks with a threshold value of 0.01 (figures 1 and 2).

In these two figures we can see the incipient distribution in clearly identifiable communities. In both, we see how the right-wing parties (*Vox*, PP and Cs) are located in the same cluster, as are the left-wing parties (PSOE and UP) along with the Catalan nationalists and pro-independence parties (*ERC* and *JuntsxCAT*).

However, to have a clearer picture of this structure, we chose different threshold values, trying to balance the increase of this threshold value with the possible loss of nodes in the network. Thus, as in previous investigations, we chose the threshold value of 0.05 (figure 3).
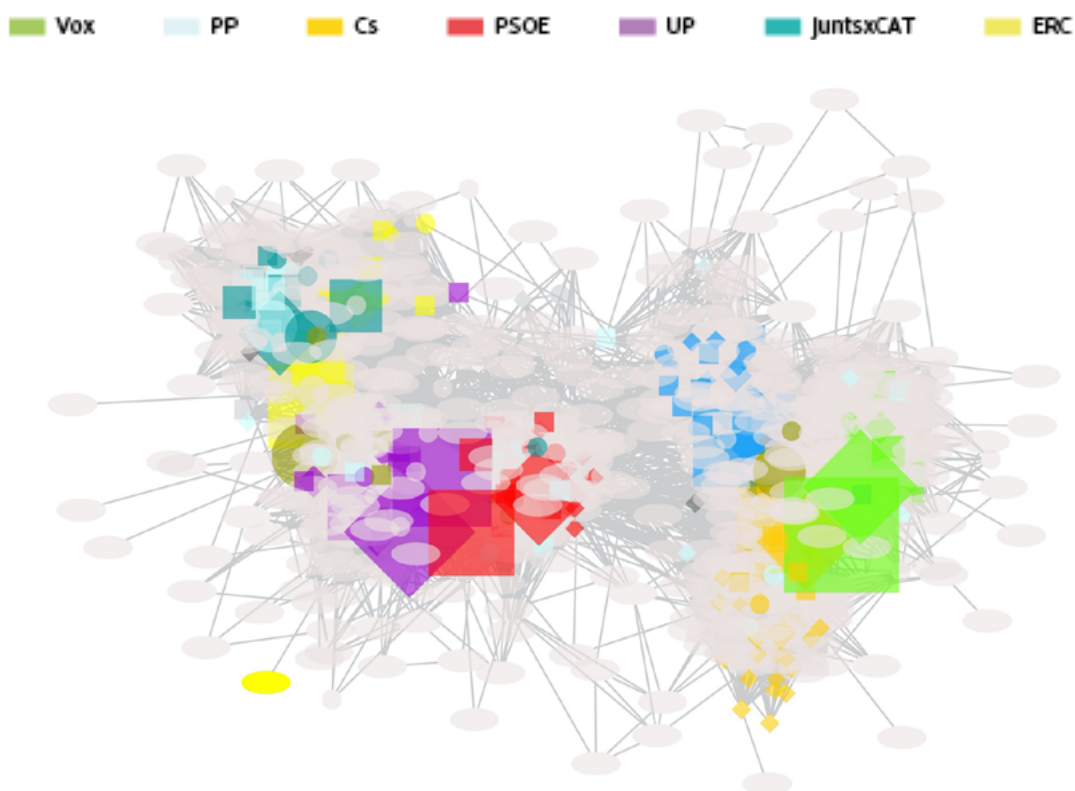

Figure 1. RON network community structure for the April 28 (28A) 2019 elections, with threshold value of 0.01 (Vox-light green, PP-light blue, Cs-orange, PSOE-red, UP-violet, JuntsxCAT-turquoise, ERC-yellow)
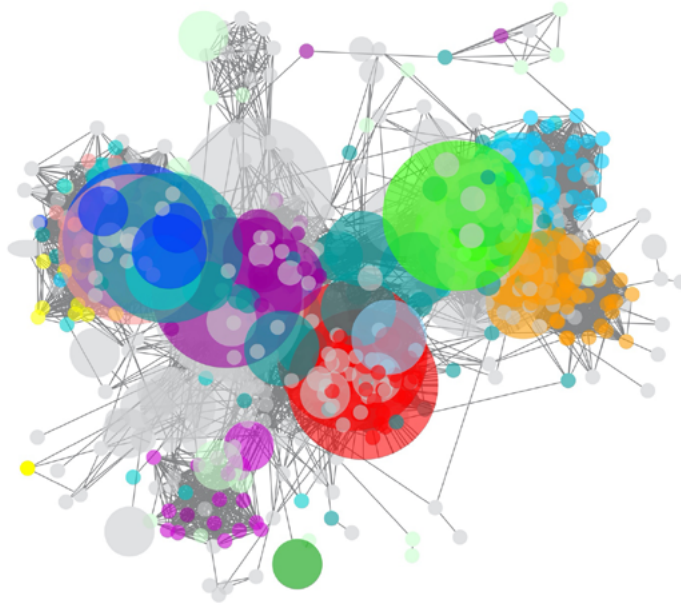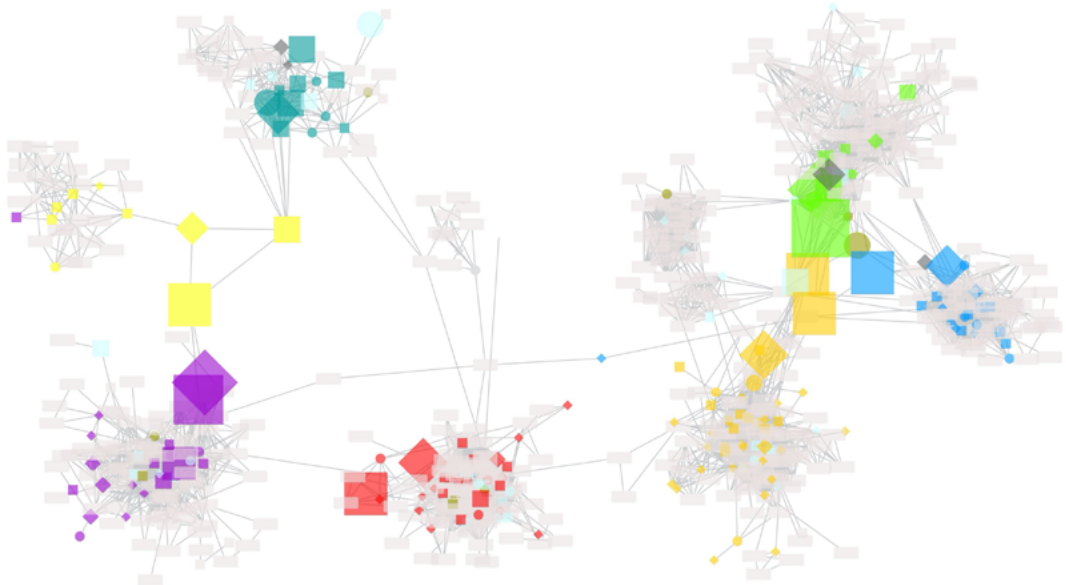
Source: Own elaboration.

Figure 2. RON network community structure for the November 10 (10N) 2019 elections, with threshold value of 0.01 (Vox-light green, PP-light blue, Cs-orange, PSOE-red, UP-violet, JuntsxCAT-turquoise, ERC-yellow)

Source: Own elaboration.

Figure 3. RON network community structure for the April 28 (28A) 2019 elections, with threshold value of 0.05 (Vox-light green, PP-light blue, Cs-orange, PSOE-red, UP-violet, JuntsxCAT-turquoise, ERC-yellow).
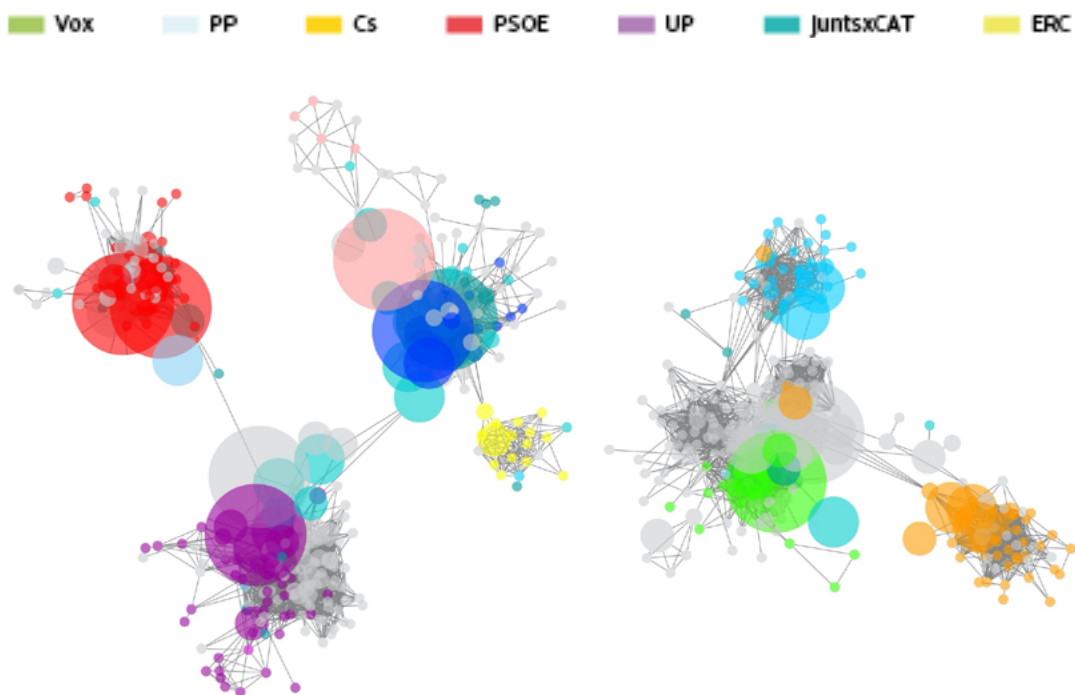
Source: Own elaboration.

Figure 4. RON network community structure for the November 10 (10N) 2019 elections, with threshold value of 0.05 (Vox-light green, PP-light blue, Cs-orange, PSOE-red, UP-violet, JuntsxCAT-turquoise, ERC-yellow).

Source: Own elaboration.

As we can see in figures 3 and 4, the network was structured in easily identifiable communities, with the more nationalistic right and left clusters even more clearly identified, and with a practical absence of links between the two for a threshold of 0.05.

The differences between the networks of 2019 and those of 2015 and 2016 are evident. In figures 5 and 6 we can see the structures of 2015 and 2016, when *Vox* had a practically null presence and the leftist party *Podemos* was an incipient formation with a representation of 0 deputies in 2015, and 42 in 2016. The comparison between figures 3 and 4, on the one hand, and 5 and 6, on the other, shows how the irruption of *Vox* (in green) substantially changes the debate structures of the parties, which go from a multiple polarization structure (figures 5 and 6) to a more polarized structure in two blocks (figures 3 and 4).
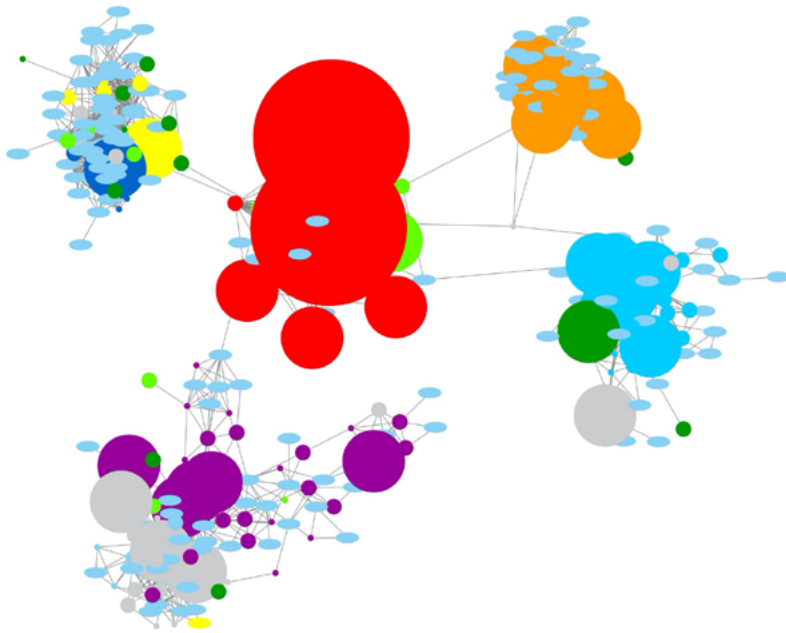
Figure 5. RON network community structure for the December 20 (20D) 2015 elections, with threshold value of 0.05.

Source: Own elaboration.

Figure 6. RON network community structure for the June 26 (26J) 2016 elections, with threshold value of 0.05

Source: Own elaboration.

To answer the second research question, on the ideological distances between parties in the April and November 2019 elections and the differences observed between these distances and those of the 2015 and 2016 elections, we calculated the values of the intersections between the main parties, grouping the communities of retweeters of the members of each party. This allows us to better approximate the distance between parties, if we assume that the intersections between communities can be a good indicator of these distances (Guerrero-Solé & López-González, 2019). Tables 2 and 3 show the intersections between the communities of party retweeters for the April 28 and November 10, 2019 elections, respectively.

28A Parties	1	2	3	4	5	6
UP (1)						
ERC (2)	.0079					
JuntsxCAT (3)	.0035	.0409				
PSOE (4)	.0127	.0011	0			
Cs (5)	.0013	.0002	.0003	.0026		
PP (6)	.0013	.0002	0	.0031	.0154	
VOX (7)	.0006	0	0	.0013	.0203	.0268

Table 2. Distances between the major political parties in April 2019

Source: Own elaboration.

10N Parties	1	2	3	4	5	6
UP (1)						
ERC (2)	.0034					
JuntsxCAT (3)	.0036	.0157				
PSOE (4)	.0032	.0006	.0004			
Cs (5)	.001	.0006	.0002	.0024		
PP (6)	.0005	.0011	0	.0023	.01	
VOX (7)	.0004	0	0	.0010	.0058	.0125

Table 3. Distances between the main political parties in November 2019

Source: Own elaboration.

10N Parties	1	2	3
UP (1)			
PSOE (2)	.0261		
Cs (3)	.0035	.0043	
PP (4)	.0028	.0034	.0105

Table 4. Distances between the main political parties in December 2015

Source: Own elaboration.

Partidos 10N	1	2	3
UP (1)			
PSOE (2)	.0066		
Cs (3)	.0023	.0134	
PP (4)	.0024	.0052	.0358

Table 5. Distances between the main political parties in June 2016

Source: Own elaboration.

Tables 4 and 5 show the intersections between the parties' retweeting communities for the 2015 and 2016 elections, respectively. As it can be seen in the different tables, the calculation of the ideological distances between parties confirms the visualized structures. The irruption of *Vox* mainly affects the distances between PSOE and Cs, as it goes from a ratio of .0134 in June 2016 (table 5) to .0026 and .0024 in the two 2019 elections (tables 2 and 3). This decrease in interaction also occurs between PSOE and PP, although not as accentuated. Finally, these data show the configuration of two large blocs in 2019 with zero interaction between them: the one formed by the Spanish right (PP, *Vox*, and Cs) and the one formed by the Spanish left (PSOE and *Podemos*) along with the nationalist parties ERC and *JuntsxCAT*, with no room for the center.

CONCLUSIONS

As previous studies have shown, users with the same political ideology are structured in sensibly isolated communities that evidence highly homophilic behavior (Hanna et al., 2013; Bessi et al., 2016). However, this study adds elements of great interest for research in political communication in social networks: the

emergence of an extreme right-wing populist party and the influence that this emergence has had on community structures and on the movement of distances between different political parties, specifically those of the Spanish right (PP and Cs).

The results obtained allow us to answer the research questions posed. First, we observe how the retweeters intersection networks (RON) have a polarized crowd structure, according to the classification of Smith and colleagues (2014). In figures 3 and 4 we observe the structuring in clusters of political parties, for a threshold value of 0.05, as well as a clear polarization of this network between center-right, right-wing, and ultra-right parties (Cs, PP, and *Vox*), and center-left, left-wing, and nationalist parties (PSOE, UP, ERC, *JxCAT*). This polarization is more pronounced in the November 2019 elections than in the April elections, where links between the two major ideological clusters can still be observed. As for the differences with the 2015 and 2016 elections, we observe a distancing between the two parties that are perceived, a priori, closer to the political center (CIS, 2019). Comparing the RON networks of 2015 and 2016, without the presence of *Vox*, with those of 2019, we observe that the ultra-right populist party occupies a central place in the cluster of right-wing parties, positioning itself close to the PP and Cs, and these, in turn, further away from the PSOE, the center-left party. Thus, we can conclude that, at least in terms of the intersection networks of retweeters, the irruption of *Vox* noticeably alters the structure in communities and brings the structure in communities of the network closer to the echo chamber model (Sunstein, 2017; Pariser, 2011; del Vicario et al., 2016).

Regarding the distances between political parties, which can serve as an approximation to the ideological distance between parties (Guerrero-Solé & López-González, 2019), as well as to voting indecision (Guerrero-Solé et al., 2014), we can see in tables 2 and 3 that the two parties closest to each other in the April 2019 elections were the Catalan pro-independence parties, ERC and *JxCAT*, followed by the parties of the political right (Cs, PP, and Vox). Although with different intensities, the pattern is repeated in the November 2019 elections, with very few variations. Similarly, we observe a null intersection between the Catalan pro-independence parties and the far-right populism of *Vox*, a fact that confirms that no Twitter user who has retweeted any of the analyzed pro-independence accounts has in turn retweeted any of the analyzed *Vox* accounts. The 2019 data are significantly different from those of 2015 and 2016, in which the PSOE appeared as a party close to UP, in 2015, and to Cs, in 2016.

In conclusion, *Vox* seems to have cohesionized the cluster or political family of the Spanish right and, in turn, weakened the links between left and right parties, consequently increasing political polarization measured in terms of the intersection of retweeting communities. This increase in polarization is also accompanied by a discourse with increasing elements of toxicity (Guerrero-Solé & Philippe, 2020;

Castro Martínez & Días Morilla, 2021). Considering the data obtained on Twitter we can conclude that: (1) Spanish politics, in 2019, is a more polarized politics, divided into two major ideological groups; (2) the links between parties considered close to the center have weakened; (3) *Vox*'s far-right populism occupies a main place in the right-wing political cluster, and confirms its ability to adapt to the logic of alternative media (Engesser et al., 2017b) and social networks (Guerrero-Solé et al., 2020; Klinger & Svensson, 2015). Among the possible consequences of the structure and distances observed in the networks, we highlight the adoption of populist far-right strategies by right-wing and center-right parties, as well as the great ease with which populist messages are disseminated in the right-wing cluster in Spain.

This research is obviously not free of limitations and biases derived from the use of data from Twitter, a social network whose audience cannot be considered as a reliable representation of the voting population of the Spanish state (for more details about the nature of social network audiences in Spain, see Moreno, 2021). However, the results give a good approximation regarding the organization of information dissemination processes through social networks, as well as the distances and the dynamics of variation of distances between political parties. There is no doubt that larger and more representative samples can offer more precise details on the process of information circulation and on the connections between politicians, media, and citizens. Therefore, it is also important to continue with the demands for greater access to data from all social networks so that the academic community can analyze what is happening in them without being limited by insufficient access (Bruns, 2019a), as is the case of Twitter, or by an absolute lack of access, as is the case of Facebook or Instagram. A final limitation is the absence of other parties with less representation in the Congress of Deputies, but which may be key to the governability of Spain, such as *Más País*, the Basque and Galician nationalist parties, PNV and BNG, or the radical Basque left, *EH Bildu*. In future research these should be considered.

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