Political Presence on Facebook during and beyond Election Campaigns: The Portuguese Case

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Abstract

Motivated by the conjecture that traditional political communication patterns and strategies are broken within social network sites, this paper investigates the presence of Portuguese political parties on Facebook during a year with two major elections (European and Legislative), both from the posting activity aspect and the user engagement. The following research questions are formulated: Is it possible to identify distinctive styles adopted by different parties or to demonstrate that their audience acknowledges them in a different manner? If such distinction is possible, can it be correlated with the party's foundation time, relative size, or positioning within the political spectrum? Our analysis shows that the common assumptions that older parties do not behave like newer ones fail when tested against the collected data. We also observe higher levels of user engagement attracted by newly founded, minor, and right-leaning parties, compared to their older, major, and left-leaning counterparts, respectively.

Keywords: social media, European elections, national elections, user engagement, Facebook

Introduction

Since the emergence of Web 2.0 in the early 2000s, a whole range of online platforms, such as microblogging services (e.g., Twitter) and social network sites (SNS) (e.g., Facebook) have allowed Internet users to express their opinions and emotions (Stromer-Galley, 2003; Stieglitz and Dang-Xuan, 2013). With the continuous rise in the use of online communication by the general public, political parties are becoming increasingly present on social media platforms (Macnamara, 2011; Enli and Skogerbø, 2013). Particularly after Barack Obama and his Chicago-based campaign team used social media and technology as a part of the arsenal for his campaign in the 2008 United States elections, SNS came into the attention of political actors across the world as a viable, if not indispensable, channel to spread their messages to the public. This presence has given new roles not only to political parties but also to the citizens. The Internet users began sharing their insights on micro-blogging channels, most notably on Twitter, and Facebook has turned into a medium for sharing socio-economic, political, and healthcare related concerns and emotions (Kapoor et al., 2018).

The online conversations and interactions on social media provide an exhaustive source of data on political engagement, opinion dynamics, and online community structures compared to the limited traditional sources, such as interviews and surveys. Manual analysis of social media data becomes impossible due to its massive scale; hence scholars have started looking into the tools and methods from Computer Science for inference from large data sets (Kapoor et al., 2018). Researchers aim to grasp the extent, the peculiarities and eventual repercussions of social media in the political sphere, either as empowering devices for the common citizen, as marketing tools for politicians, or even as unpredictable agents of change in democracy (Bennett, 2012; Lilleker et al., 2015).

The topics of political communication and public engagement on Facebook, and content analysis of posts during the political campaigns, have come into the focus of the emerging field of social media research (Kapoor et al., 2018). As the most recent examples of studies on these topics related to European politics, Larsson (2016) investigated the traces of permanent campaigning in Norway and Sweden, two politically similar countries, while Kalsnes (2016) looked into the 2013 national elections in Norway, where the data obtained from interviews with political communication directors were combined with those extracted from Facebook. Taking on a similar subject, Magin et al. (2017) used Facebook data to analyze the 2013 national elections campaigns led by German and Austrian parties. Boulianne and Larson (2021) explored the complementary dimension of the users' engagement with posts during the 2019 Federal Elections in Canada. More recently, Jensen and Schwartz (2022) give an overview of research on social media and elections in the last decade.

All of these studies concentrate only on the electoral campaigns and analyze social media data, i.e., interactions and posts from political parties and politicians, while neglecting the data from before and/or after these electoral periods. On the other hand, Larsson and Kalsnes (2014) studied the general Facebook use by the parliamentary politicians in Norway and Sweden, not related to political campaigns. Similarly, Heiss et al. (2019) collected Facebook data from the national political figures in Austria for a non-electoral period of six months, and Serra-Silva et al. (2018) studied the Portuguese parties' Facebook engagement over a seven-year span. However, the number of studies expanding their analysis to the pre- and post-electoral campaign periods is limited. Also, the studies on the online presence for the political parties in the Southern Europe are limited. The research field has been mostly applied in the Western Europe and North America (Stieglitz et al., 2012). Moreover, except for the work of Serra-Silva et al. (2018), the political communication on social media in Portugal has remained largely unacknowledged. Therefore, we aim at addressing this gap by conducting an analysis of social media presence of Portuguese political parties on Facebook.

In this paper we investigate the activity on social media by the active Portuguese parties before, during and after the two major elections in 2019, i.e., the European and Legislative Elections in Portugal. The differences and similarities in the behavior of the parties from different positions in the political spectrum and with different foundation times are analyzed based on their Facebook posts and the corresponding interactions from the users. The collected Facebook data are tested against the following three hypotheses, the first two being previously considered in literature.

- (H1) Older political parties have a harder time engaging on social media platforms (Effing et al., 2011).

- (H2) Major parties do not depend on social media as much as minor ones, as they receive more mainstream media attention (Vergeer and Hermans, 2013; Larsson, 2016).
- (H3) The rise and political success of right-leaning parties is correlated to more social media presence and user engagement.

These hypotheses are addressed both from the perspective of the *supply side* (the starting point of the communicative exchange, herein corresponding to Facebook posts) and the *demand side* (the follow-up, i.e. user interactions in the form of reactions, comments, and shares).

The first hypothesis (H1) is established following recent studies (Effing et al., 2011; Lilleker et al., 2015; Magin et al., 2017) reporting that older parties have a more conservative approach to social media, being lower on their priority tools to convey political messages and goals. Testing this hypothesis from both aforementioned perspectives yields two underlying (sub)hypotheses:

- (H1.a) Newer parties post on Facebook more frequently than the older ones.
- (H1.b) Newer parties draw higher levels of engagement from the users.

The second hypothesis (H2) is formulated based on studies (Vergeer and Hermans, 2013; Larsson, 2016) arguing that while the major parties do not use social media tools as much as the minor ones, i.e., relying on the mainstream media attention being already directed towards them, the reproduction of content from traditional media on social platforms works in their favor. This is commonly referred to as the "normalization hypothesis" in literature (Klinger, 2013). Conversely, smaller parties – and especially fringe parties (Norris, 2003; Cardenal, 2013) – can compensate for their comparably limited access to traditional media outlets by taking advantage of the online services to a higher degree, thereby reinforcing what is known as the "equalization hypothesis" (also Klinger, 2013), which is the one we test here. Our hypothesis H2 is thus composed by two underpinning ones:

- (H2.a) Minor and fringe parties post more often than the major ones.
- (H2.b) Minor and fringe parties draw higher levels of engagement from the users.

Complementing these two hypotheses, and considering the recent rise of right-wing populist parties (Hameleers et al., 2017; Engesser et al., 2017, Stier et al., 2017), the third hypothesis (H3) can be represented by the following:

- (H3.a) Right-leaning parties post more frequently compared to the left-leaning ones.
- (H3.b) Right-leaning parties receive more engagement from the users.

The rest of this paper is structured as follows. The next section provides the conceptual framework and detailed information on the Portuguese political panorama, followed by a section on Facebook data collection. We then articulate the methodology adopted in this work, and present the analysis results. Finally, in the discussion section we outline our main findings.

Conceptual framework

Social networking platforms allow, at least by design, what some previous studies have described as a decentralized communication of many-to-many (Janssen and Kies, 2005), although one can argue that the very same design, built on the hierarchy post-comment-reply, can be as asymmetrical as one-to-many communication (Lilleker et al., 2015; Theocharis et al., 2016). In fact, several studies across countries such as Italy, France, Canada or the UK have observed that one-way communication is more prevalent (Skovsgaard and Van Dalen, 2013; Kalsnes, 2016; Sobaci and Hatipoğlu, 2017).

Considering the recent studies on political communication, one of the most popular SNS is Facebook, which provides one-to-many communication for political parties. We investigated how the communicative exchange takes place on Facebook, in order to have a more accurate description of what happens both on the *supply side* and on the *demand side*. The activity on the *supply side* can be measured by the number of posts from the page owners, i.e. political parties, while from the *demand side* it can be measured by the number of comments, shares, Likes and other reactions (Love, Haha, Wow, Sad or Angry) from the Facebook users (Effing et al., 2011). These interactions, commonly explained and analyzed as user engagement (Stromer-Galley, 2003; Stetka et al., 2019), are the major metrics used in literature.

In this paper, which is a part of a more comprehensive research project on the use of social media for political communication in Portugal, our main goal is to apprehend how the official political parties with current representation in the Portuguese parliament (i.e., following the Legislative Elections on 6 October 2019) use Facebook to communicate with the citizens. Particularly, we focus on the 2019 Legislative Elections in Portugal and on the earlier elections for the Portuguese representatives in the European Parliament (26 May 2019). Essentially, we want to understand how the Portuguese political parties used Facebook to engage with the public in the imminence of the two nation-wide elections that took place in 2019 (namely before, during and after the electoral campaigns), and how the public responded.

The Portuguese political panorama

Among a plethora of other communication channels (e.g., news media, official bulletins, outdoors, etc.), political actors nowadays also interact with citizens through social network platforms. These actors may be institutional (governments, ministries and other governmental subdivisions, parties, their regional or local chapters, etc.), semi-institutional (e.g., coalitions, official movements for more ephemeral events such as referendums), or individuals (presidents, ministers, mayors, members of parliament or of other institutions, candidates, etc.). All of these can be found in the Portuguese panorama, and they all compete for a place in the political space and for the attention of citizens, with the leading role being on political parties instead of individuals.

In order to justify some of the methodological options adopted in this work, in what follows we contextualize the contemporary Portuguese political panorama until the legislature that started in late 2019, near the cut date of our dataset. Since the 1974 Carnation Revolution (Palacios Cerezales, 2017) that overthrew a long-standing dictatorship in Portugal, the number of official active parties has been between 15-20 in total, with a clear majority of left-leaning ones. However, the dominant left orientation does not apply to the seats in the parliament, as the electoral system aims to achieve proportional representation of votes. For the Legislative Elections, this is done through a division of regions into districts or constituencies (called electoral

circles), which elect a number of members of the parliament (MPs) proportional to their relative population, with the d'Hondt method being used to convert the votes of each circle into mandates (Leston Bandeira, 2009).

In the first elections of 1975, only seven individual parties earned enough votes to be represented, and until recently the overall highest number of represented parties was nine. This occurred only once, in 1980, and in the subsequent years fewer parties were in the parliament, partially because of the reduction in the number of seats from 250 to 230 (in 1991). Since 1975, PS (Socialist Party) and PPD/PSD (Social-Democrat Party) have been the major political contenders. These are followed by several medium-sized or minor parties, including CDU (Unitary Democratic Coalition) – a coalition of PCP (Portuguese Communist Party) and PEV (Ecologist Party) formed in 1987 –, CDS-PP (Popular Party), and finally BE (Left Block), which was established in 1999 as a merge of several smaller left-wing parties.

This panorama of six parties in the national parliament lasted for five consecutive legislatures (1999, 2002, 2005, 2009, 2011), until the pattern was broken in 2015 with the arrival of the ecologist-animalist PAN (People-Animals-Nature), with only one MP. Finally, in the 2019 Legislative Elections, the reversion of the six-party trend became even more apparent with the establishment of other new parties: L (Free) on the left, and on the right IL (Liberal Initiative) and C (Enough). Despite being founded in the 2010s, these three parties managed to elect one MP each, while PAN enlarged its representation to four MPs. With this change in 2019, the total number of individual parties with parliamentary representation became 10 (Table 1).

Table 1. Percentage of votes and the elected MPs count for the European and Legislative Elections from 2005 to 2019.

			European Elections			Legislative Elections				
			2009	2014	2019	2005	2009	2011	2015	2019
Major parties	Socialist Party (PS)	% of votes	26.5	31.5	35.9	45.0	36.6	28.1	32.3	38.2
		MPs count	7	8	9	121	97	74	86	108
	Social-Democrat Party (PPD/PSD)	% of votes	31.7	27.7[2]	23.6	28.8	29.1	38.7	36.9[3]	29.2
		MPs count	8	6	6	75	81	108	89	79
Minor parties	Unitary Democratic Coalition (CDU)[1]	% of votes	10.6	12.7	7.4	7.5	7.86	7.9	8.25	6.66
		MPs count	2	3	2	14	15	16	17	12
	Left Block (BE)	% of votes	10.7	4.6	10.6	6.3	9.81	5.17	10.2	10.0
		MPs count	3	1	2	8	16	8	19	19
	Popular Party (CDS-PP)	% of votes	8.4	-[2]	6.7	7.3	10.4	11.7	-[3]	4.44
		MPs count	2	1	1	12	21	24	18	5
Fringe parties	Free (L)	% of votes	-	2.2	1.9	-	-	-	0.73	1.14
		MPs count	-	0	0	-	-	-	0	1
	People-Animals-Nature (PAN)	% of votes	-	1.7	5.5	-	-	1.04	1.39	3.49
		MPs count	-	0	1	-	-	0	1	4

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[1] CDU is a coalition between Portuguese Communist Party (PCP) and Ecologist Party (PEV). In this table, the number of MPs of both parties is aggregated.
[2] PPD/PSD and CDS-PP ran as a coalition (Aliança Portugal)
[3] PPD/PSD and CDS-PP ran as a coalition (Portugal à Frente), except in Madeira and Azores (not included in %).

Liberal Initiative (IL)	% of votes	-	-	0.9	-	-	-	-	1.35
	MPs count	-	-	0	-	-	-	-	1
Enough (C)	% of votes	-	-	1.6[4]	-	-	-	-	1.35
	MPs count	-	-	0	-	-	-	-	1
	Total MPs	22	21[5]	21	230	230	230	230	230

Source: Author's elaboration with data from Comissão Nacional de Eleições [National Electoral Committee]

In Table 1 and Figure 1, the Portuguese political parties are categorized according to their foundation or legal recognition dates, position in the political spectrum, and size – considering the results in the most recent nationwide elections, from 2009 to 2019. Older parties are the ones established before 2000, the year considered as the start of an information age on the Internet for the political institutions and actors (Fuchs, 2017). Intuitively, newer parties are those established or legally recognized after 2000.

Figure 1. Mapping of parties according to the party's foundation time, relative size, and position on the political spectrum.
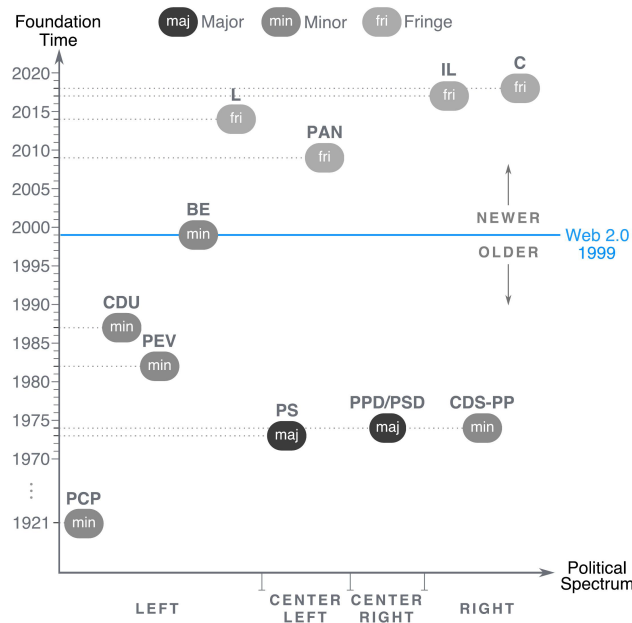
Source: Authors' elaboration

Data collection

Regardless of being founded before or after the year 2000, all Portuguese official political parties have active Facebook pages, which are the main source of information for our research. All of these Facebook pages are public; hence, anyone including nonregistered users can view their content. For the purpose of this exploratory study, posts from the Portuguese political parties were collected using Facepager, a tool for

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[4] C did not run for the elections, but the party's president was the main candidate in a coalition between two small right-wing parties (PPM and PPV/CDC).
[5] The two remaining seats were occupied by MPT, a right-wing ecologist party.

fetching publicly available data from various websites (Jünger and Keyling, 2019).

As we investigate the activity of Portuguese political parties' on Facebook around the periods of the two major elections in 2019, all posts from that year were collected. The party's name, Facebook page link, account creation date, and the number of followers for each party's page are listed in Table 2. It should be pointed out that the information on the number of followers is not used in this study, since it reflects the state at the time of the data extraction (May 2020), and the evolution of this metric across time is unobtainable through the API. However, these numbers give us a general idea about the relative rankings between parties, with PAN, PPD/PSD, and BE having the highest amount of followers at the time the data were collected. On the other hand, CDU, CDS-PP, and C have the highest numbers of posts, and C, PS, and IL have the highest numbers of comments during the considered period. Table 3 also shows the type of political party, the total number of collected Facebook posts for each party and the performance of each party page with comments, shares and reactions.

Table 2. The Portuguese political parties' Facebook pages information from 2019.

Political Party	Facebook Page URL	Creation Date	Followers on May 2020*
Portuguese Communist Party (PCP)	https://www.facebook.com/pcp.pt	2016-01-20	20K
Unitary Democratic Coalition (CDU)	https://www.facebook.com/CDUPCPPEV	2011-04-19	17K
Ecologist Party (PEV)	https://www.facebook.com/PartidoEcologistaOsVerdes	2011-02-10	12K
Left Block (BE)	https://www.facebook.com/esquerda.net	2011-11-13	102K
Free (L)	https://www.facebook.com/LIVREoficialpt	2013-11-16	28K
Socialist Party (PS)	https://www.facebook.com/SedeNacionalPartidoSocialista	2011-01-06	87K
People-Animals-Nature (PAN)	https://www.facebook.com/PANpartido	2015-05-17	162K
Social-Democrat Party (PPD/PSD)	https://www.facebook.com/ppdpsd	2010-05-17	151K
Liberal Initiative (IL)	https://www.facebook.com/iniciativaliberal	2018-08-22	75K
Popular Party (CDS-PP)	https://www.facebook.com/CDSPP	2014-12-11	36K
Enough (C)	https://www.facebook.com/PartidoChegaOficial	2018-10-23	87K

Source: Authors' elaboration

Table 3. The Portuguese political parties' type, Facebook page posts, comments, shares, and reactions from 2019.

Party	PCP	CDU	PEV	BE	L	PS	PAN	PPD/ PSD	IL	CDS- PP	C
Type	Old/ Min/ Left	Old/ Min/ Left	Old/ Min/ Left	Old/ Min/ Left	New/ Fri/ Left	Old/ Maj/ Left	New/ Fri/ Left	Old/ Maj/ Right	New/ Fri/ Right	Old/ Min/ Right	New/ Fri/ Right
Posts	590	757	591	591	608	636	582	650	599	662	664
Comments	3,382	1,519	292	4,991	10,315	26,189	17,883	15,777	19,473	5,555	34,073
Shares	60,199	35,886	4,214	18,724	28,100	25,851	47,958	21,725	84,626	18,201	108,935
Likes	71,323	55,277	11,086	31,693	71,468	132,444	179,940	98,912	355,986	58,900	340,464
Love	5,624	3,541	484	3,799	11,172	12,814	34,339	7,280	17,767	3,371	23,881
Haha	601	109	22	1,183	4,502	1,662	4,321	843	12,605	1,895	8,771
Wow	97	31	18	386	625	206	1,657	227	1,675	218	1,991

| Sad | 1,382 | 200 | 99 | 2,313 | 949 | 534 | 10,316 | 765 | 4,621 | 942 | 5,425 |
| Angry | 1,425 | 456 | 31 | 2,889 | 1,037 | 1,291 | 10,867 | 735 | 9,941 | 666 | 18,715 |
| *Total* | *144K* | *98K* | *16K* | *65K* | *128K* | *201K* | *307K* | *146K* | *506K* | *89K* | *542K* |

Source: Authors' elaboration

As one can observe from the daily number of posts in the collected data over time shown in Figure 2, two peaks in the posting activities during 2019 occurred for the periods of two major elections in Portugal (i.e. European and Legislative Elections). Figure 3 compares the total post counts between different parties for the considered 2.5-month periods around the two elections, i.e., before, during, and after their electoral campaigns.

Figure 2. Number of posts per day for all party pages during 2019.
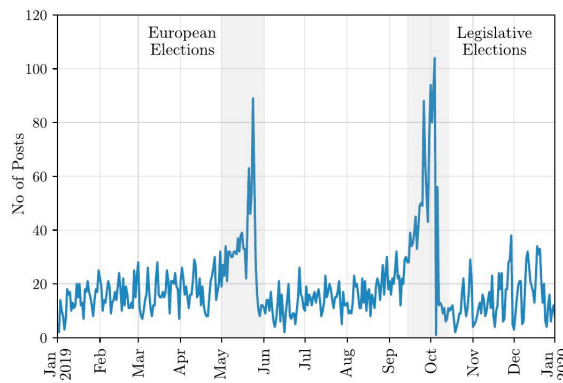
Source: Authors' elaboration

Figure 3. Total number of posts in the month before, during, and after the campaign of the European and Legislative Elections over party pages (2.5 months in total).
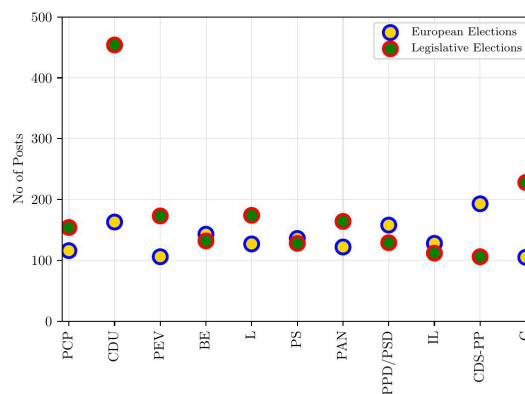
Source: Authors' elaboration

Data analysis

The previous analysis of the aggregate data set with posts by all parties during 2019 reveals the overall behavior, the peaks in posting activities during the two major election periods, and the differences in the total number of posts for these elections. For a more detailed information on the posting dynamics and

social media engagement over time, in this section we elaborate the analysis performed to test the three hypotheses described in the Introduction, which involve comparison between the following pairs of complementary groups:

(1) Older vs. Newer Parties;
(2) Major vs. Minor Parties (including fringe parties);
(3) Right vs. Left Parties.

For each group, posts and corresponding interactions were taken into account, with the latter considering reactions, shares and comments separately. Weekly averages were used instead of daily counts, in order to smooth out sporadic spikes. To be able to compare the aforementioned party groups, we calculated the differences between opposing groups in all these weekly averages. More precisely, the differences were calculated by subtracting the number obtained for the second group (in the listed order) from the corresponding number obtained for the first one. For example, for the first complementary pair, the weekly average number of posts by newer parties is subtracted from the weekly average number of posts by the older parties.

Our study takes two perspectives; the first one, being a typical approach in literature, focuses on the two major elections. While the official campaigns take place only during the two weeks preceding the event (excluding the election day itself and the "reflection day" on the eve), we additionally consider a month before the campaign, usually but unofficially called "pre-campaign", and a month after the election, to verify if any changes in the behavior occur after the results are announced. The second one considers the aggregate data from the whole span of the year 2019. All of the null-hypotheses in this work are set up to test if the pages have equal activity levels on average (i.e. by considering the number of posts per week), and the weekly average levels of engagement per post (i.e. by jointly considering the number of reactions, comments, and shares). We apply ANOVA tests (Ott and Longnecker, 2015) to the data sets for the two groups in each hypothesis, in order to observe the differences between these groups' means, with the standard choice of 5% test significance being adopted.

Supply side

We assume that the most reliable indicator of a political party's social media activity is the frequency of posts on its Facebook page. Our findings from the joint consideration of the data for the whole span of the year 2019 suggest that older parties are more active than newer ones (contradicting H1.a.), minor and fringe parties are more active than the major ones (confirming H2.a.), and the left parties are more active than the right-leaning ones (contradicting H3.a.). This can be observed from Figure 4, showing the difference in the weekly average number of posts between the two groups, for each of the three considered pairs. Moreover, by focusing on the two major elections periods, the findings show that there is a statistically significant difference between the older and newer parties post activities, except in the month after the Legislative Elections. This can be seen from the summary of hypothesis testing results, summarized in Table 4, with the scientific E-notation being used in p-values because of their generally low values.

Figure 4. Differences in weekly average numbers of posts for the considered groups of parties.
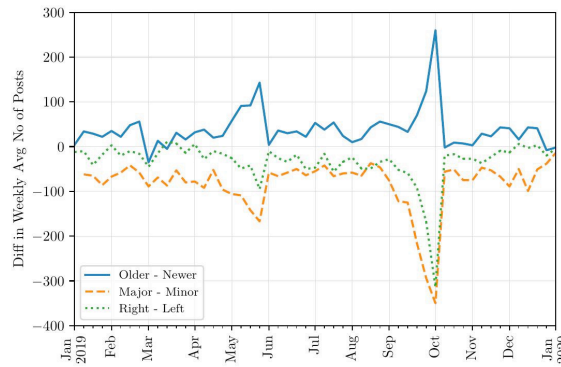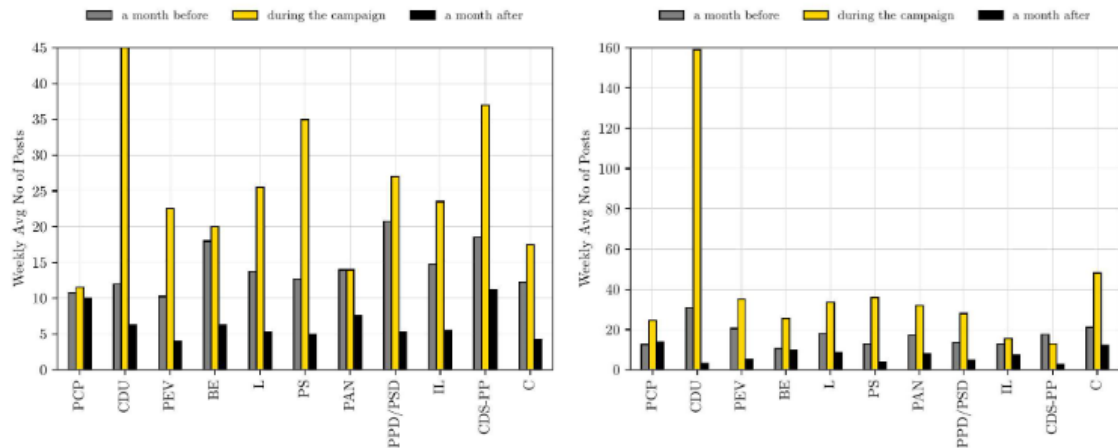

Source: Authors' elaboration

Table 4. P-Values for the Null Hypotheses on the party pages' activities overall span of 2019, and for the periods of the European and Legislative Elections; a month before the election campaigns, during the election campaigns (2-weeks), and a month after the election campaigns. (R: Reject, NR: Not Reject)

Hypotheses	Variables	Overall span of 2019	European Elections			Legislative Elections		
			A month before the election campaign	During the election campaign	A month after the election campaign	A month before the election campaign	During the election campaign	A month after the election campaign
H1a	Posts count	8.97e-19 (R)	7.50e-11 (R)	4.63e-03 (R)	1.76e-04 (R)	2.00e-04 (R)	9.81e-03 (R)	**6.42e-01 (NR)**
H2a	Posts count	4.78e-50 (R)	2.26e-16 (R)	5.16e-03 (R)	2.14e-08 (R)	3.78e-13 (R)	5.78e-03 (R)	4.91e-07 (R)
H3a	Posts count	7.39e-15 (R)	1.09e-04 (R)	4.67e-02 (R)	1.93e-04 (R)	3.48e-06 (R)	3.99e-06 (R)	1.09e-03 (R)

Source: Authors' elaboration

Unsurprisingly, the weekly average number of posts during the month before and during the election campaigns is higher than after the elections, for both the European and Legislative Elections (Figure 5). The most notable outlier is CDU's activity during the election campaigns for both elections, due to its excessive effort to show their place in the voting ballots. From what we could find out looking at the post activity of this party over a more extended time, this behavior is exclusive to the campaign periods. Similarly, C's high level of activity is evident for the Legislative Elections (Figure 5b). As already shown above (Figure 3), the total number of posts was higher during the Legislative Elections than in the European Elections, though not for PPD/PSD, IL, and CSD-PP (right-leaning parties), and also barely higher in the European Elections for left-leaning BE and PS. Except for the older right-wing party CDS-PP during the Legislative Elections, a consistently higher activity is observed during the campaign weeks, followed by reduced activity during the post-election month, with the average numbers of posts falling below the values seen during the month preceding the campaigns.

Figure 5. Weekly average number of posts in the month before, during, and after the campaign of the (a) European and (b) Legislative Elections over party pages.

Source: Authors' elaboration

Demand side

While the previous subsection focuses on the activities of parties in terms of posting content on their Facebook pages, this one considers the interaction with the posted content in terms of reactions (a general term that also includes Likes[6]), comments, and shares from users. Due to the existence of several different types of user engagement, this analysis requires an additional degree of complexity compared to the *supply side*.

To measure user engagement on Facebook, we used the number of comments, shares, likes, and reactions (given that Facebook introduced additional reactions to the Like button in February 2016 – Love, Haha, Wow, Sad, and Angry). "The like button was originally introduced to replace short affective statements like Awesome and Congrats!" (Gerlitz and Helmond, 2013). According to these authors, the intuitive assumption behind the Like button is that the number of likes implies exposure, attention, and some sort of affirmation, ratification, or endorsement of what is posted. While ambiguity can never be fully eradicated, given that any reaction may be used in an ironic fashion (Gerlitz and Helmond, 2013), these new reactions present nevertheless a more straightforward and nuanced division, particularly between those associated with positive sentiments (Like and Love) and the remaining ones (Haha, Wow, Sad and Angry[7]). We thus conceived two additional metrics; namely, *positive reactions* (sum of Likes and Loves), and *other reactions* (sum of Hahas, Wows, Sads, and Angrys).

Although reactions represent the most common form of engagement, especially positive ones such as Likes, which are always above 80% of all reactions (Figure 6), the other types of engagement are still essential for the understanding of users' interactions with the party pages. Therefore, we modified Bonson and

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[6] This is acknowledged not only by Facebooks API, which in the field "reactions.summary.total count" sums all reactions including "like.summary.total count" but also in Facebook's FAQs, e.g. in https://en.facebookbrand.com/facebookapp/assets/reactions/: "The collection of Reactions includes Like, Love, Care [unavailable before March 2020], Haha, Wow, Sad and Angry."
[7] Eberl et al. (2020) have a different approach, classifying Haha and Wow also as positive reactions, and Sad and Angry as negative ones. We find this distinction problematic, especially in the cases of Haha (which has a very high potential of sarcasm – laughing *at* the post, dismissing it as ridiculous, rather than *with* the post, considering it amusing) and Sad (which may have been used to display compassion before the introduction of Care in March 2020). For this reason, only Like and Love were counted as *positive* (Sandoval-Almazan and Valle-Cruz, 2020; Gerodimos and Justinussen, 2015), while the remaining ones – which may be analyzed more closely in future studies – were grouped as *other* reactions. We did however check all of them separately to look for relevant information.

Ratkais' metrics by considering the weekly averages of *positive* reactions, *other* reactions, comments, and shares.

Figure 6. Percentage of weekly average of a specific reaction over total reactions.
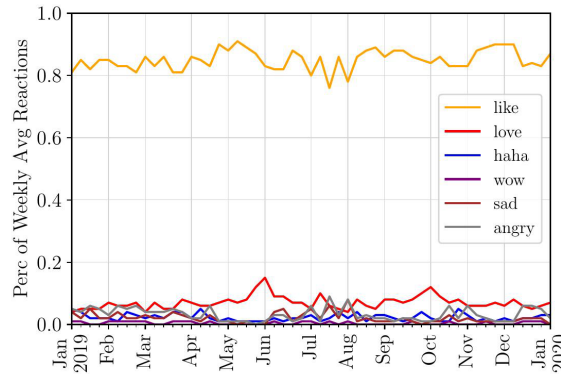
Source: Authors' elaboration

Considering the reactions of the complementary groups of parties, the graphics show that newer parties (H1.b) tend to receive more reactions overall than older ones (Figure 7). However, considering either the party size (H2.b) or its position in the spectrum (H3.b), both *positive* and *other* reactions render mixed results. For the pair major-minor parties the difference in the average number of all reactions is not significant after election campaigns, for both elections. Moreover, no significant difference between major and minor parties can be observed during the European Elections campaign. However, before each campaign, major parties generally receive more *positive* reactions than the minor ones (Figure 7). For the *other* reactions (Figure 9), right-wing parties drew more of this type of reactions than the left-leaning ones, with significant statistical results during the overall span of 2019. These results also show that the right-leaning parties receive more reactions of both kinds before, during and after the Legislative Elections, whereas there is no significant difference between left and right-leaning parties during the European Elections, except for the *positive* reactions during the month before the election campaign.

Figure 7. Differences in weekly average numbers of *positive* reactions between the considered groups of parties.
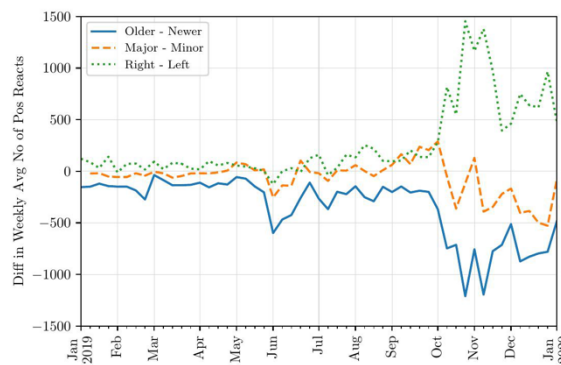
Source: Authors' elaboration

The results for the hypotheses tests for the *demand side* are summarized in Table 5, again with the scientific E-notation being used in p-values because of their generally low values.

The most interesting behavior around the European Elections is observed for PAN (newer, fringe, and left-leaning) and IL (newer, fringe, and right-leaning), which received considerably higher numbers of *positive* reactions than the other parties. On the other hand, IL and C (both newer, fringe, and right-leaning) received the highest positive reactions after the Legislative Elections (Figure 8).

Table 5. P-Values for the Hypotheses on the party pages' user engagement overall span of 2019, and for the periods of the European and Legislative Elections; a month before the election campaigns, during the election campaigns (2-weeks), and a month after the election campaigns. (R: Reject, NR: Not Reject).

| Hypotheses	Variables	Overall span of 2019	European Elections			Legislative Elections		
			Before	During	After	Before	During	After
H1b	Reactions	9.59e-174 (R)	1.73e-11 (R)	2.22e-06 (R)	6.22e-15 (R)	8.78e-23 (R)	6.58e-11 (R)	5.94e-20 (R)
	Positive reactions	7.94e-163 (R)	3.77e-11 (R)	2.40e-06 (R)	2.15e-14 (R)	5.18e-22 (R)	2.27e-10 (R)	8.42e-20 (R)
	Other reactions	5.09e-67 (R)	6.48e-05 (R)	2.70e-03 (R)	6.98e-05 (R)	2.90e-10 (R)	2.51e-04 (R)	4.56e-06 (R)
	Comments	1.05e-37 (R)	**4.59e-01 (NR)**	**7.62e-02 (NR)**	6.82e-03 (R)	**3.71e-01 (NR)**	2.67e-03 (R)	1.17e-08 (R)
	Shares	1.18e-42 (R)	**1.01e-01 (NR)**	**4.45e-01 (NR)**	2.70e-05 (R)	1.88e-04 (R)	5.05e-03 (R)	2.48e-03 (R)
	All engagement	7.05e-140 (R)	1.24e-06 (R)	2.03e-05 (R)	3.39e-13 (R)	1.19e-14 (R)	1.18e-08 (R)	1.33e-14 (R)
H2b	Reactions	2.87e-03 (R)	3.15e-03 (R)	**7.10e-01 (NR)**	**3.67e-01 (NR)**	8.04e-08 (R)	1.21e-04 (R)	**7.01e-01 (NR)**
	Positive reactions	3.01e-02 (R)	2.39e-03 (R)	**7.07e-01 (NR)**	**3.62e-01 (NR)**	1.09e-09 (R)	3.92e-05 (R)	**8.52e-01 (NR)**
	Other reactions	2.02e-09 (R)	**7.12e-01 (NR)**	**9.97e-01 (NR)**	**8.49e-01 (NR)**	**3.01e-01 (NR)**	**4.98e-01 (NR)**	**2.97e-01 (NR)**
	Comments	3.03e-15 (R)	3.61e-09 (R)	6.67e-03 (R)	6.48e-03 (R)	7.75e-38 (R)	7.11e-08 (R)	**4.01e-01 (NR)**
	Shares	1.48e-08 (R)	**5.59e-01 (NR)**	**1.22e-01 (NR)**	**2.37e-01 (NR)**	**7.06e-01 (NR)**	**8.37e-01 (NR)**	**6.13e-01 (NR)**
	All engagement	2.33e-03 (R)	1.19e-03 (R)	**7.37e-01 (NR)**	**4.75e-01 (NR)**	9.92e-07 (R)	1.22e-03 (R)	**7.39e-01 (NR)**
H3b	Reactions	3.64e-73 (R)	3.24e-03 (R)	**9.17e-01 (NR)**	**8.62e-01 (NR)**	4.84e-11 (R)	3.98e-06 (R)	7.86e-26 (R)
	Positive reactions	1.71e-73 (R)	2.64e-03 (R)	**9.41e-01 (NR)**	**8.33e-01 (NR)**	6.55e-12 (R)	1.17e-05 (R)	1.83e-26 (R)
	Other reactions	3.94e-15 (R)	**9.89e-01 (NR)**	**1.12e-01 (NR)**	**7.43e-01 (NR)**	4.30e-02 (R)	7.75e-04 (R)	5.25e-06 (R)
	Comments	1.10e-19 (R)	**7.94e-01 (NR)**	**6.58e-01 (NR)**	**7.22e-01 (NR)**	1.14e-02 (R)	4.08e-03 (R)	4.46e-10 (R)
	Shares	8.90e-16 (R)	**1.62e-01 (NR)**	1.53e-02 (R)	**2.38e-01 (NR)**	**8.20e-02 (NR)**	2.23e-02 (R)	1.26e-05 (R)
	All engagement	4.07e-58 (R)	**8.36e-02 (NR)**	**6.94e-01 (NR)**	**7.02e-01 (NR)**	3.48e-07 (R)	2.16e-05 (R)	1.01e-19 (R)

Source: Authors' elaboration

Figure 8. Weekly average number of *positive* reactions in the month before, during, and after the campaign of the (a) European and (b) Legislative Elections over party pages.
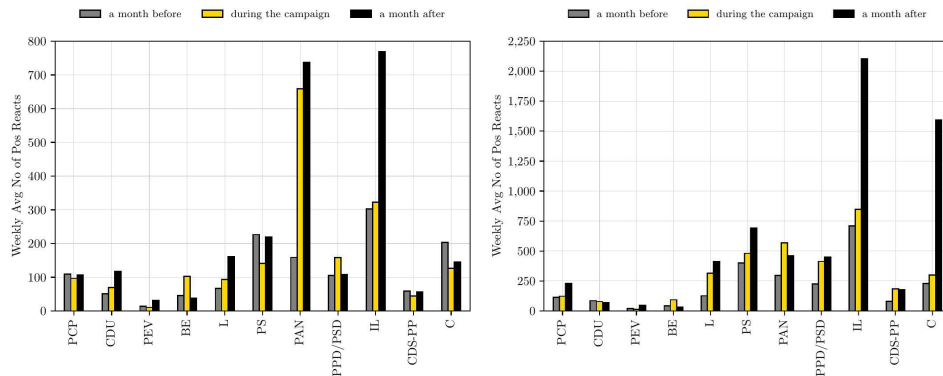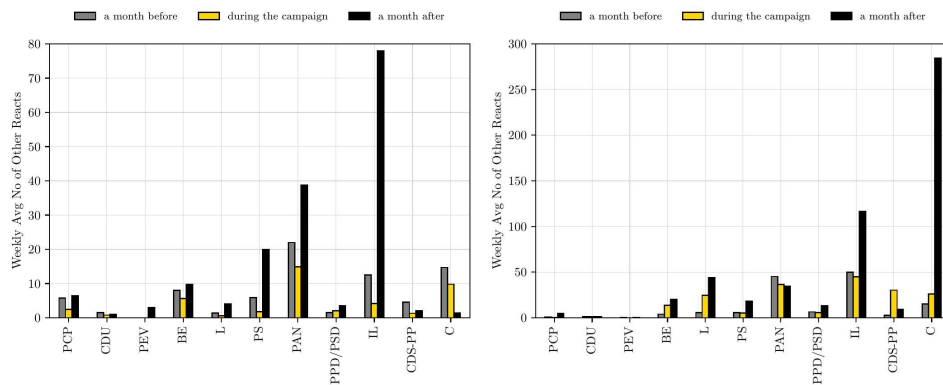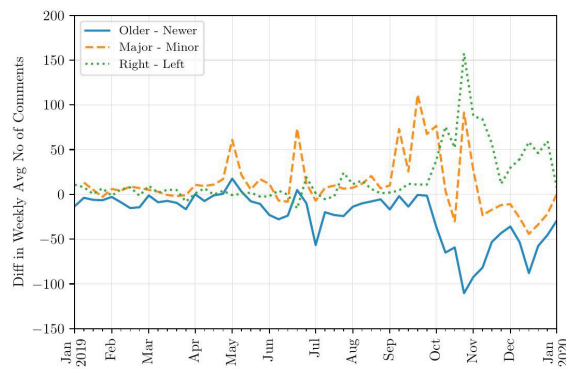

Source: Authors' elaboration

For *other* reactions, the most identifiable difference is observed for the party group pair based on the foundation time, for both electoral periods (Figure 9). Also, we observe significant differences in this type of engagement for the party group pair based on the political position, but only during the Legislative Elections periods. In other words, the right-leaning parties obtained more *other* reactions than the left-leaning ones (Figure 9); with IL and PAN having the highest number of these reactions after the European Elections, and C and IL assuming the top positions for the Legislative ones (Figure 10), as already observed with *positive* reactions.
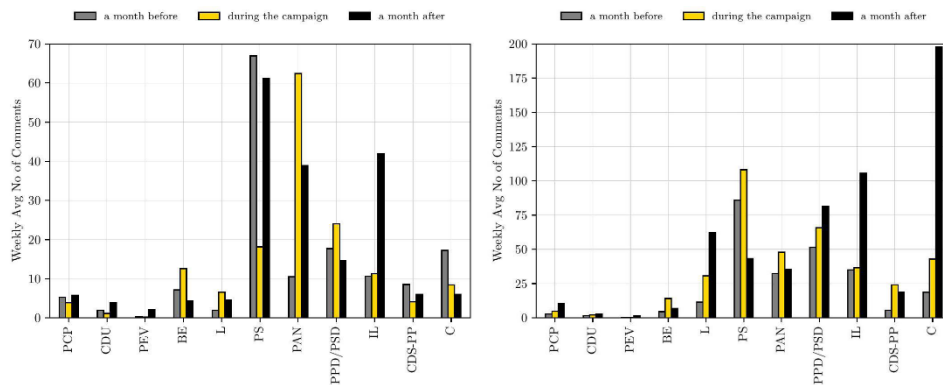
Figure 9. Differences in weekly average numbers of *other* reactions between the considered groups of parties.
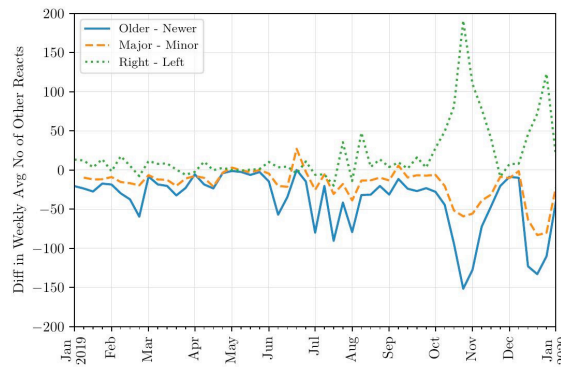
Source: Authors' elaboration

Figure 10. Weekly average number of *other* reactions in the month before, during, and after the campaign of the (a) European and (b) Legislative Elections over party pages.

Source: Authors' elaboration

Regarding the average number of *comments* per post for each party, for the overall span of the year 2019, the newer and right-leaning parties (H1.b. and H3.b) received more comments than their older and left-leaning counterparts (Figure 11), respectively. However, for the month before and during the two-week European Elections campaign, there is no significant difference between the older and newer parties, as between the pair Left-Right, additionally non-significant before that campaign. The pair older-newer parties also shows comparable levels of comments during the month before the Legislative Elections, while the same can be observed for the pair major-minor parties during the month after.

Figure 11. Differences in weekly average numbers of comments between the considered groups of parties.

Source: Authors' elaboration

PS received the most comments among all parties, before both election campaigns as well as during the Legislative Elections campaign (Figure 12). PAN got the highest number of comments during the European Elections campaign, while IL and PAN had the most comments in the month after. The most interesting behavior around the Legislative Elections is found for C, the far right party, whose Facebook page was the most commented one in the period after the Legislative Elections, followed by IL and PPD/PSD (Figure 12b).
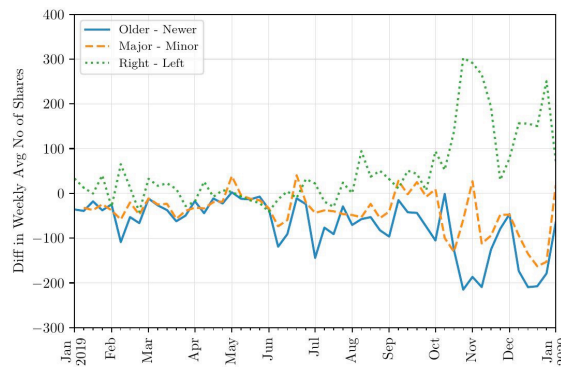
Figure 12. Weekly average number of comments in the month before, during, and after the campaign of the (a) European and (b) Legislative Elections over party pages.

Source: Authors' elaboration

Finally, we consider the number of shares of parties' posts on their Facebook pages; the differences in the weekly average number of shares between the party groups is shown in Figure 13. The pair major-minor parties shows no significant differences during both elections, while the differences between right and left-leaning parties are significant during the European Elections campaign, and also during and after the Legislative Elections. A similar difference in shares between older and newer parties is observed in the period after the European Elections campaign and all periods of Legislative Elections.

Figure 13. Differences in weekly average numbers of shares between the considered groups of parties.

Source: Authors' elaboration

For the specific periods around the elections considered in this work, IL's posts were the most shared ones before and after both campaigns, whereas PAN received the most shares during the European Elections campaigns (Figure 14a). IL and C also show visible differences in the number of shares in the month after the Legislative Elections (Figure 14b).
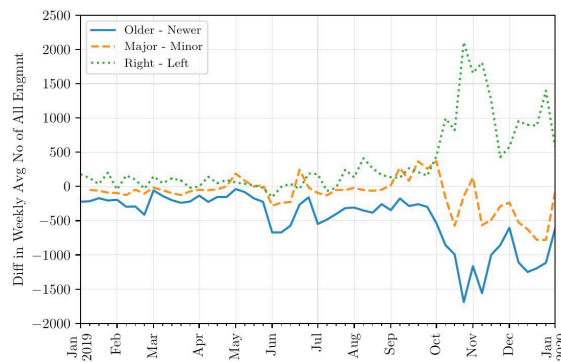
Figure 14. Weekly average number of shares in the month before, during, and after the campaign of the (a) European and (b) Legislative Elections over party pages.
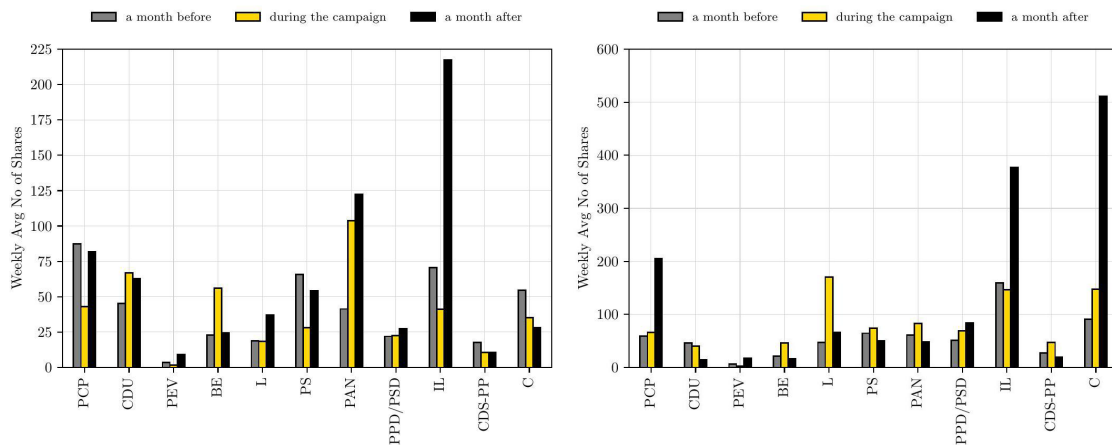
Source: Authors' elaboration

By summing up all types of engagement and considering the weekly average of all reactions together, the graphics show that the newer parties posts inspire more engagement than the older ones (H1.b), and that right-leaning parties draw more engagement than the left-leaning ones (H3.b), especially around the Legislative Elections period (Figure 15). During the European Elections campaign and the month after, only the pair older-newer parties shows significant differences. For the Legislative Elections period, more precisely in the month after the campaign (Figure 16), major and minor parties show similar overall user engagement, contrary to the assumed hypothesis (H2.b).

Figure 15. Differences in weekly average numbers of all interactions (any type of engagement) for the considered groups of parties.

Source: Authors' elaboration

When it comes to the overall interaction with the parties' posts, Figure 16 shows again that IL and PAN achieved the highest levels of engagement during the European Elections campaign and the month after. IL's posts are also seen as the most engaging ones in the same periods around the Legislative Elections, with C attracting similar levels in the month after the elections. Also, for the overall user engagement, the Legislative Elections period received more attention compared to the European Elections period.

Figure 16. Weekly average number of all interactions (any type of engagement) in the month before, during, and after the campaign of the (a) European and (b) Legislative Elections over party pages.
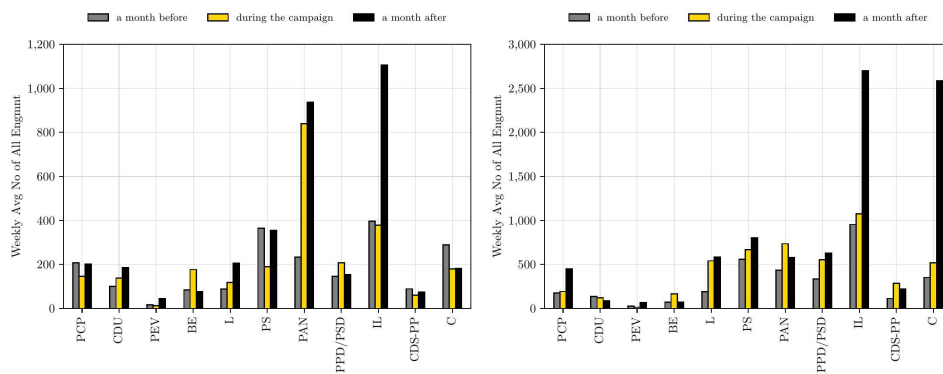
Source: Authors' elaboration

Discussion and conclusion

Our research findings suggest that the opposition between major and minor parties (being the fringe ones included in the latter), covered by hypotheses H2.a and H2.b, is the one that in general yields less statistically significant results, thus leaving the "normalization vs. equalization" debate undecided. For the overall span of 2019, although the level of posting activities (*supply side*) of older and left-leaning parties (H1.a and H3.a) is slightly higher than that observed for the newer and right-leaning ones, the user engagement (*demand side*) is greater for the newer and right-leaning parties, respectively (H1.b and H3.b).

The common *supply side* hypothesis related to the party's foundation time (H1.a.) (Lilleker et al., 2015; Magin et al., 2017) fails when tested against the data set collected for this study. Moreover, the hypothesis related to the party's political position (H3.a.) cannot be accepted when looking at the variations in the frequency of posts and different periods around the two considered elections. In both cases the results are significant, but contradicting the assumptions of the existing literature.

However, even in cases in which the p-values in the ANOVA tests were consistent with the hypotheses, these may be either attributed to short-term or even more ephemeral factors, or to emerging long-term trends that only future research can acknowledge. This is particularly noticeable in the following illustrations from the *demand side*. In spite of the three newer and fringe parties (IL, PAN, and C) as the most active and engaging content owners, PS achieves a comparable degree of *comments* from their followers, especially before the official campaign periods. As such, none of the hypotheses (H1.b., H2.b., and H3.b) can be consistently validated, even if there are occasionally statistically significant differences regarding this engagement metric. This particular exception to the reports in the literature, i.e. for a major, older, and center-left party to have a good performance regarding *comments*, could be attributed to the fact that this party was at the time in the government and won both elections, and as such attracted more public attention. Only a different methodology of analysis may allow an answer for this increase in attention. A similar case can be argued by considering the number of *shares*. Four parties are observed with a higher average number of shares, with PCP appearing alongside the usual suspects IL, PAN, and C. Being a left-wing and most of all an older party, it is somewhat surprising to find it as a matching contender in shares with these newer ones.

By considering the rise of right-wing populism reported by some authors (Hameleers et al., 2017; Engesser et al., 2017; Stier et al., 2017), our results show that there is a significant difference between the right and left leaning parties' user engagement (H3.b) in the periods around the Legislative Elections – this difference, with an advantage for parties on the Right, can be clearly seen in Figure 15. The party that allegedly adopts a more distinctive populist style, C, does not show a higher degree of activity, although a considerable growth in its activity nearing the Legislative Elections and even after (as the party earned a seat in the parliament), can be observed, along with occasional spikes that call for further research, e.g. based on content analysis, for a more assertive explanation. For another newer right-wing party, IL, to which one could arguably attach the epithet of populism, the evidence seems to outright invalidate the *supply-side* of the hypothesis: its Facebook posting activity is similar to that observed from the other parties.

Along with these findings, some structural constraints and limitations derived from contextual methodologies must also be acknowledged. First of all, the automated data retrieval tools, while providing an extremely convenient way of obtaining large amounts of information in standardized and interoperable formats, only allow collection of data authorized by the APIs, dependent on laws such as those relating to the protection of private data, e.g. General Data Protection Regulation. This means that any study of this kind is practically unable to obtain other information such as the followers' demographics, or which was the number of followers at the time of the posts. Other hypotheses extending those presented in this study, for example whether the user engagement comes mostly from younger followers, or if there is some kind of generational gap between the followers of older and newer parties, are thereby beyond the reach of this method. Another structural limitation arises from the fact that, in spite of the general knowledge that Facebook algorithms introduce biases regarding who gets to see which posts in their feed, the collected data does not provide a way to know how many people have actually seen the post, if the post appeared only in the feed of the followers of the corresponding page, if it had a wider audience because it was sponsored, etc. The political parties may be able to access some of that information via the page analytics provided by Facebook and adapt their campaigns accordingly, but that is not available for researchers.

Other limitations are specific to this study, and may be addressed in further research. This study considers only the number of posts and engagement metrics, without analyzing the content or media in these posts or comments. However, content-aware analysis of the interactions between parties and Facebook users would be beneficial for further analyses, namely the post types (text, photo, video, and link), as each of those may convey, or at least potentiate, specific communication styles adopted by parties and enable different levels or types of user engagement. As an illustration, we have observed that photos and videos constitute the bulk of the collected posts; however, the analysis on the parties' usage of different media and the user engagement levels associated with different types of posted content is beyond the scope of this work.

A few important corollaries emerged from the obtained results. One was the finding that significant differences between considered party groups occurred mostly on the *demand side* and during the electoral periods, and more assertively in Legislative than in the European elections. Even though parties show generally similar behaviors in the posting frequency (e.g., an increase in the activity during the campaigns, followed by a sharp decrease afterwards), significant differences were observed in the user engagement for the newer and right-leaning parties as they received more attention from their followers, especially after the Legislative Elections period.

Some of the findings were intriguing enough to inspire or at least reshape further research plans. That is particularly pertinent for a more in-depth look at the interactions between the post activities and user engagement by the means of emotion and content analysis. Albeit less common than the *positive* reactions (Like and Love), the *other* reactions may constitute a suitable and original research path, especially considering the fact that these seem to be more frequent with the content posted by newer parties, however in a seemingly conflicting way. Are the newer (and also fringe) parties such as PAN or IL more prone to antithetical forms of engagement, as they are simultaneously attracting reactions of both laughter and anger? Can the comments' semantics reveal some kind of battleground between supporters and detractors? The same questions can be asked about the posts that attract more comments or those that generate more shares. Do some political themes and issues entice the audience more than others, and which ones? Do they reveal something about the rise of right-wing populism, fake news and hate speech on social network platforms? For future research, we will aim at detecting humor, irony, and provocation in posts and investigating contradictory reactions, such as Love, Sad, and Angry.

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Declaration of interest statement

The authors have no conflict of interest to declare.

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