Citizen engagement on Spanish political parties’ Facebook pages: Analysis of the 2015 electoral campaign comments

Abstract

Political parties’ use of social networks to spread their messages allows for citizen engagement and fosters debate among social networks users. In this paper, we analyze said engagement in the comments written by citizens on the Facebook pages of the major Spanish political parties during the 2015 general election campaign. We describe the characteristics of citizen engagement in a political context and determine if there are any differences amongst the comments published on the political parties’ pages. We employ a two-phase quantitative methodology. First, we analyze the distribution of the 68,747 citizen comments posted on the profiles of PP, PSOE, Podemos, and Ciudadanos, based on the level of engagement and which party’s page they appear on. Second, we perform a computerized content analysis of the comments to identify the most used words, the emotional valence of the messages, and the type of language citizens use to interact with one another. The results indicate that users associated with the new parties engage in such ways that differ from those users associated with the traditional parties. Moreover, interaction among users of these platforms is characterized by disagreement and more negative, offensive language, especially on the Facebook pages of the most ideologically polarized parties.

Keywords

Facebook, engagement, comments, social networks, political communication, campaigns, computer-assisted text analysis.

1. Introduction

Social networks are an alternative channel to traditional media in which all sorts of messages can be disseminated. Engagement transcends the barriers of passive reading and the users becomes a prosumer (Berrocal, Campos & Redondo, 2014). The possibility for everyone to make comments turns these platforms into public spaces for debate and citizen empowerment (Soengas, 2013). Thus, Facebook is a
communication medium that allows people to engage one another socially and politically (González, Becerra & Yanez, 2016).

Social networks have become a mainstay in electoral campaigns alongside traditional political communication. Both parties and candidates use a hybridization of dissemination channels in their use of online and offline media (Casero-Ripollés, Feenstra & Tormey, 2016).

Differences in the implementation of these digital platforms depends not on national or ideological characteristics, but rather on each party's strategy and the value the parties assign to these tools (Koc-Michalska et al., 2016), which carry out a complementary function in a large-scale strategy (Kreiss, 2016; Vaccari, 2013). Several studies (Valera, Sampietro & Fenoll, 2017; Miquel-Segarra, Alonso-Muñoz & Marcos-García, 2017; López-García, 2016) show that the major difference in the use of and engagement in this public sphere, particularly during election campaigns, revolves around the logics of old and new parties and candidates. Larsson and Kalsnes (2014) showed that young politicians and those in the middle of their career use new technology more than already-established politicians, who hold important positions and tend to be less active in online channels.

Using social media for political communication allows parties to avoid media filters and access the online audience, thereby opening a communication space in which participants can express themselves on current issues at a speed that would be impossible using traditional media (Levonian, 2016; Jenkins, 2008). In this context, mediatization has acquired a bidirectional dynamic in which the parties exert influence through the media at differing levels, whether using the networks to spread their message and their interpretive framework, making participants of the citizens, or following the mass media logic (Casero-Ripollés et al., 2016; Feenstra et al., 2017). Thus, although traditional media still exert more influence on the citizenry, new media have modified consumption and circulation patterns, making way for a new communication paradigm (Chadwick, 2013).

Nevertheless, to understand contemporary political communication, in addition to the media in all its forms, the social context must also be considered: the citizenry's trust in the parties, institutions, and the democratic system, as well as interpersonal exchanging of ideas: exposure to distinct points of view, participating in conversations with elements of ideological discrepancy, and the resolution of such deliberation (Shat et al., 2017).

In Spain, the citizenry has proven its commitment to local governance by engaging in municipal issues through Facebook and Twitter (Haro-de-Rosario, Sáez-Martín & Caba-Pérez, 2016; Campillo-Alhama & Martínez-Sala, 2017). This commitment is put into practice through dialogue and the wide range of social activities organized on these platforms, leading to conversations that deepen the political knowledge of the conversations’ followers (Muñiz et al., 2016). Nevertheless, the most cyberoptimistic theories have been refuted by several studies in the field of political communication (Koc-Michalska et al., 2016; Sunstein, 2001).

Far from encouraging dialog and tolerance (Graham et al., 2013; Catalina, López de Ayala & Fernández, 2015), social networks favor ideological polarization inasmuch as they function as echo chambers in which users avoid any information not in line with their beliefs (Sunstein, 2001). Such is the case both on Facebook (Quattrociocchi, Scala & Sunstein, 2016; Jacobson, Myung & Johnson, 2016), and Twitter (Hayat & Samuel-Azran, 2017). Although these platforms grant access to people uninterested in politics (Valeriani & Vaccari, 2016), most people who engage with politicians’ Facebook walls are members or sympathizers of the respective party (Valera et al., 2017). As Bennet and Iyengar state,

The evidence on partisan bias in news consumption is consistent with the argument that technology will narrow rather than widen users’ political horizons. Over time, avoidance of disagreeable information may become habitual so that users turn to their preferred sources automatically no matter what the subject matter (2008: 724).
Moreover, the interaction typically occurs between users of these platforms and, in most cases, dialog between party and citizens is secondary, rare, or non-existent (Koc-Michalska et al., 2016; de Sá, Araújo & de Oliveira, 2016). Although social networks offer a bidirectional channel for permanent contact with the citizens, the parties use digital resources hierarchically and unidirectionally (Vaccari, 2013), and tend not to use their social network posts to establish meaningful dialog with users, be it on twitter (Alonso-Muñoz, Marcos-García & Casero-Ripollés, 2016) or Facebook (Valera et al., 2017).

Until recently, online electoral campaigns have had an impact on the electorate but failed to mobilize voters (Dader, 2016). As new political parties have appeared and consolidated, differences arise in how parties use social networks: whereas the traditional parties use them to announce other web content they have created, the new parties link to more varied sources and encourage an exchange of ideas and perspectives (Nitschke, Donges & Schade, 2016). These differences can be seen in the 2015 Spanish General Elections campaign on Twitter, in which new parties aim to mobilize the citizenry through emotion, in contrast with the old parties’ specific policy proposals (López-García, 2016).

Haro-de-Rosario et al. (2016) show that user engagement increases when comments have negative sentiment. Similarly, de Sá et al. (2016) analyzed engagement with posts on unethical actions (corruption, embezzlement, etc.) and detected that behavioral patterns in negative conversations like this reflect aggressiveness, humor, and ideological convergence or divergence. Furthermore, Xenos, Macafee, and Pole (2015) find that citizen engagement increases when the party posts less. Thus, when the party posts more often, less time elapses before social networks users comment on and discuss the message, thereby creating numerous conversation threads.

On other social networks such as YouTube, user engagement is more passive, as the prosumer-published political content tends to be rebroadcasts of content created by the traditional media (Berrocal et al., 2014). Even so, one cannot ignore the platform’s ability to make political events go viral and place them on the agenda. The comment-based engagement arising from such content tends to be ideologically homogeneous, creating a “conformity cascade” (Sunstein, 2016).

Spain’s 2015 General Elections are particularly noteworthy for the mise-en-scène of two new parties—the left-wing Podemos and the liberal Ciudadanos—alongside two traditional political parties that have alternated in Spain’s government over the last 30 years—the conservative People’s Party (PP) and the social-democrat Spanish Socialist Workers’ Party (PSOE). We should highlight that, according to polls conducted following the December 2015 General Elections (CIS, 2016), there is a generational gap among voters: people under 44 years old are more closely aligned with the new parties, whereas those over 45 prefer the old parties.

These elections, therefore, offer new perspectives for analysis: in contrast with the left-right dichotomy that characterized the two-party system of the traditional political parties, we saw a new pattern emerge in the Spanish parliament based on the parties’ trajectory. Scholars have already studied this phenomenon and analyzed various communication ecosystems, including social networks and candidate blogs (Gamir, Cano-Orón & Calvo, 2017), the stories parties post on their websites (Valera, Carratalá & Palau, 2017), news stories about the campaign in Spain’s online media (Campos & Vicente, 2017), infotainment television and political debates (Peris et al., 2017), and the Twitter community’s engagement in political conversations (Baviera, García-Ull & Cano-Orón, 2017). Their results all point to the logic of new and old parties that define this phenomenon. Above all, the logics differ in terms of communication strategy and how social media is fused with traditional media, especially television.
Our research analyzes citizen engagement on the public Facebook pages of the four major Spanish political parties.

As new parties have emerged in the Spanish political arena, creating the old/new dichotomy in addition to the traditional left/right cleavage, we pose the following research question to establish each element’s weight in the engagement:

*RQ1*: Are there differences in citizen engagement on the Facebook pages of Spanish political parties? Might they correspond with ideological or generational values?

Regarding these dimensions’ influence on the interaction among social networks users, we pose the following question:

*RQ2*: Are there differences in the type of language used in responses among users who engage on the Facebook pages of Spanish political parties? Can they be explained from an ideological or generational perspective?

Our hypothesis is that, as in the parties’ messages on social media (López-García, 2016), there are also differences in citizen engagement based on the new/old party dichotomy on these platforms.

2. Methodology

In this paper, we analyze the posts made on the public Facebook pages of the national Spanish political parties with the greatest chances for electoral success (CIS, 2015) during Spain’s 2015 General Elections (4 December 2015 to 12 December 2015): PP, PSOE, Podemos, and Ciudadanos.

To compile the corpus, we used Facepager (Keyling & Jünger, 2013), which allowed us to download the parties’ posts, the citizens’ comments, and the responses (comments made in response to other comments), published on the Facebook pages. The corpus consists of 68,747 comments.

In our research, we applied a quantitative methodology that includes computerized content analysis software. To answer RQ1, we analyzed the comments’ distribution in contingency tables based on the party and the type of publication. The chi-square test reveals the categories in which the differences are statistically significant. Then we performed a correspondence analysis using WordStat (Provalis Research, 2010), which maps the differences in the messages’ content based on the party’s page where they are published. Various researchers have used this program in studies on media content (Lowry, Xie & Witte, 2008; Luo, Meier & Oberholzer-Gee, 2012), user comments on digital media (Chen & Moeller, 2014), as well as in the field of social networks (Groshek & Al-Rawi, 2013).

To determine the differences in the language used and answer RQ2, we used the Spanish version of the LIWC dictionary (Pennebaker et al., 2015), which measures the frequency of the words that appear in the publications and categorizes them. Several studies (Alpers et al., 2005; Tausczik & Pennebaker, 2010) have demonstrated the reliability of the English dictionary’s psychometrics. The Spanish dictionary is available thanks to a study by Ramírez-Esparza, Pennebaker, García, and Suriá (2007), in which they confirm a sufficient level of correspondence between the dictionaries.

The program’s various categories have been used in studies that analyze write press (Young & Soroka, 2012; Zeller, Arlt & Wolling, 2010), the comments of online media consumers (Fenoll, 2015; Ruiz et al., 2010), debate forums (Fenoll & Sánchez, 2016), blogs (Cohn, Mehl & Pennebaker, 2004), and Twitter (Bae & Lee, 2012; Ríus-Araujo, Puentes-Rivera & Mínguez-González, 2016; Tumasjan et al., 2011). Likewise, the tool has been applied to studies on Facebook, focusing on user profiles (Kramer, 2012; Lin & Qiu, 2013) and political parties’ pages (Caton, Hall & Weinhardt, 2015; Stiegitz & Dang-Xuan, 2012).

In this paper, we use the following categories: emotions, negation, insults, and references to others in second and third person. To determine if there are statistically
significant differences in words’ appearance frequencies in each category, we performed the Mann-Whitney U test and the Kruskal-Wallis test for independent samples, given that the variables did not meet the requirements for homoscedasticity and normality. Furthermore, to quantify the discursive freedom in the citizen engagement we find on political parties’ Facebook pages, we developed the “type of language” variable, which consists of the categories “polite,” “negative,” and “directed negative.” The definition of these categories is based on classifications used in past studies (Camaj & Santana, 2015; Valera et al., 2017). First, the category “polite” includes comments with no insults and less than 50% negative words. Second, the category “negative” includes comments with insults or more than 50% negative words but without references to others. Lastly, the category “directed negative” includes comments with insults or more than 50% negative words with references to others.

3. Results

In this paper, we analyze the 68,747 citizen comments appearing on the 532 posts published during the electoral campaign on the PP, PSOE, Podemos, and Ciudadanos Facebook pages. The computerized content analysis of the comments yielded a total of 1,303,401 words.

3.1. Engagement

To answer RQ1 and establish what, if any, differences exist in the citizenry’s engagement on the Spanish political parties’ Facebook pages, we analyze the distribution of comments based on party and comment type. As depicted in Table 1, the posts published on the new parties’ profiles elicit more responses than those posted on the traditional parties’ pages. Podemos has the greatest average number of comments per post (236.63), followed by Ciudadanos (190.58), PSOE (146.91), and PP (59.60).

Table 1. Publication frequency based on party and comment type

<table>
<thead>
<tr>
<th>Comment Type</th>
<th>Post Absolute Frequency</th>
<th>PP</th>
<th>PSOE</th>
<th>Podemos</th>
<th>Ciudadanos</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>Comment</td>
<td>Absolute frequency</td>
<td>253</td>
<td>112</td>
<td>117</td>
<td>50</td>
<td>532</td>
</tr>
<tr>
<td></td>
<td>%</td>
<td>47.6%</td>
<td>21.1%</td>
<td>22%</td>
<td>9.4%</td>
<td>100%</td>
</tr>
<tr>
<td>Comment</td>
<td>Absolute frequency</td>
<td>11328</td>
<td>10210</td>
<td>21148</td>
<td>6427</td>
<td>49113</td>
</tr>
<tr>
<td></td>
<td>%</td>
<td>23.1%</td>
<td>20.8%</td>
<td>43.1%</td>
<td>13.1%</td>
<td>100%</td>
</tr>
<tr>
<td>Response</td>
<td>Absolute frequency</td>
<td>3750</td>
<td>6244</td>
<td>6538</td>
<td>3102</td>
<td>19634</td>
</tr>
<tr>
<td></td>
<td>%</td>
<td>19.1%</td>
<td>31.8%</td>
<td>33.3%</td>
<td>15.8%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Source: Created by authors

To describe the engagement in greater detail, we focus on the number of distinct users who publish comments on each party’s page and their distribution based on level of engagement. Table 2 shows the absolute frequency, percentage, and typified adjusted residuals of the unique users who engage on the Facebook pages, categorized based on party and comment type. The chi-square test result indicates that the differences among categories are significant \[\chi^2 (1, n = 28906) = 385.50, p < .001, V = .117\]. The greatest number of unique users engage with Podemos’s page, followed far behind by PSOE and PP. Lastly, Ciudadanos’s page has the smallest number of unique users.
Table 2. Unique users based on party and comment type*

<table>
<thead>
<tr>
<th>Comment type</th>
<th>Comment type</th>
<th>Absolute frequency</th>
<th>PP</th>
<th>PSOE</th>
<th>Podemos</th>
<th>Ciudadanos</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Residuals</td>
<td>-7.7</td>
<td>-14.8</td>
<td>15.2</td>
<td>6.5</td>
<td></td>
</tr>
<tr>
<td>Response</td>
<td>Absolute frequency</td>
<td>%</td>
<td>12.5%</td>
<td>14.7%</td>
<td>6.7%</td>
<td>6.9%</td>
<td>10.0%</td>
</tr>
<tr>
<td></td>
<td>Residuals</td>
<td>-7.7</td>
<td>-10.4</td>
<td>0.8</td>
<td>-15.2</td>
<td>-6.5</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>Absolute frequency</td>
<td>%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

* No cell (0%) has an expected frequency less than 5. The minimum expected frequency is 340.04.
Source: Created by authors

The typified adjusted residuals analysis shows significant differences in the distribution of engagement between people engaging with the new parties and those engaging with the traditional parties. As depicted in Table 2, the percentage of Podemos and Ciudadanos-associated users who write comments is significantly higher. On the PP and PSOE page, we find a significantly greater than expected percentage of users who respond to the comments of other people engaging with the page.

Regarding engagement type, nearly 5% of the comments are re-posts of other messages. This phenomenon signals a sort of interference in the comments system and reveals groups of organized users who engage on the parties’ Facebook pages with a wide range of objectives. Table 3 shows the absolute frequency, percentage and adjusted standardized residuals of each party’s page’s original and duplicate messages. The chi-square contrast value indicates that the differences among categories are significant $[\chi^2(3, n = 68747) = 411.00, p < .001, V = .077]$

It is worth noting that, for the new parties, the percentage of duplicate messages is greater than that found for the traditional parties. The number of duplicate messages is significantly higher on Ciudadanos’s Facebook page ($Z = 18.2$).

Table 3. Duplicate messages per party*

<table>
<thead>
<tr>
<th>Message type</th>
<th>Duplicates</th>
<th>Absolute frequency</th>
<th>PP</th>
<th>PSOE</th>
<th>Podemos</th>
<th>Ciudadanos</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Residuals</td>
<td>-12.0</td>
<td>-4.0</td>
<td>0.8</td>
<td>18.2</td>
<td></td>
</tr>
<tr>
<td>Original</td>
<td>Absolute frequency</td>
<td>%</td>
<td>97.0%</td>
<td>95.7%</td>
<td>95.0%</td>
<td>91.3%</td>
<td>95.1%</td>
</tr>
<tr>
<td></td>
<td>Residuals</td>
<td>12.0</td>
<td>4.0</td>
<td>-0.8</td>
<td>-18.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>Absolute frequency</td>
<td>%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

* No cell (0%) has an expected frequency less than 5. The minimum expected frequency is 468.36.
Source: Created by authors
The frequency analysis of the most used words in the duplicate messages reveals the source of this interference. Figure 1 (next page) shows the three-dimensional correspondence analysis map of the case occurrences of the most used words in the duplicate messages by users on the four parties' Facebook pages. A words’ spatial proximity to a party’s check-box represents a greater appearance frequency on that party’s wall, and the number of duplicates is represented based on its position on the y-axis.

Figure 1. Correspondence analysis of the most used words in each party’s duplicate posts

We found messages linked to organizations that aim to influence the parties’ agenda by systematically posting repeat–comments on the latter’s Facebook pages. These messages try to make the parties and their supporters aware of specific issues. For example, the following message was posted 123 times: And nobody remembers the Organization for Handicapped People (OID), #iamOID. The comments were published by nine distinct users, whose names reveal their relationship with the organization. These users limit their engagement to spreading messages on the four parties’ pages, refrain from entering the debate with the other users, and do not react to the discursive context in which they insert their comments.

The correspondence analysis of the most used words in duplicate messages shows how users write comments on the walls of parties besides their own. Some of these messages promote a candidate on the wall of another party with overlapping voter blocks, like the 62 comments published by a single person on the Podemos and PSOE pages, urging people to vote for the Popular Unity candidate: Vote for Popular Unity United Left (IU) Albert Garzón

* Comments appearing in italics were written originally in Spanish and are translated here for the reader's convenience.
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Espinosa. Some seek out confrontation by alluding to scandals the party is involved in, like oft-repeated messages about Luis Bárcenas on the PP’s Facebook page: *as voters this might should interest you, B. the Movie, it’s the real Bárcenas trial (by the way, great film nominated for a Goya), you can watch it here: [http://www.blapelícula.com](http://www.blapelícula.com)*. On Podemos’s page, there were duplicate messages about Venezuela: *Financed by Venezuela and Iran!!*

Nevertheless, the posting of duplicate messages can be key in differentiating between mere ideological differences and the debate-disrupting intent common among Internet trolls (Fenoll, 2015). We have found messages by users whom we could categorize as trolls, messages in which, in addition to systematic repetition, there is also offensive or provocative content. Such is the case of the 86 comments published by a single user on the Ciudadanos page: *COME ON SPAIN! United, grand, and free with Albert as prime minister!! And long live Francisco Franco.*

Along with comments like this, we also saw extensive sharing of links to videos or news stories that criticize a certain party or candidate and are used as ideological warfare tools on social networks. Of the duplicate comments, 55.4% contain a link that plays multimedia files that openly criticize the politicians, such as: *THE VIDEO PABLO IGLESIAS DOESN’T WANT YOU TO SEE* ([https://youtu.be/m66j_jQzVTo](https://youtu.be/m66j_jQzVTo)), linked to by users on both Podemos’s and Ciudadanos’s pages.

Moreover, we found duplicate messages that belong to users who support the party whose wall they post on and seek to monitor participation in the comment system, both to unmask potential intruders and to ingrain the campaign slogan or *leitmotiv* in the discourse. We found one person who, to identify users trolling for other parties, responds to another’s comments 16 times: *Rosario, saying the same thing in all her comments. Profile created day 12. The Podemos bunch’s new trolling strategy.*

Regarding slogans, we found five users on the Podemos page who repeat word-for-word Pablo Iglesias’s closing remarks from the December 7 Debate. Along the same lines, on the PP’s page, the message “LONG LIVE THE PEOPLE’S PARTY” was posted 99 times.

Likewise, we found duplicate comments that were politically innocuous and merely sought to promote campaign-related events. For example, we found 57 duplicate comments on the PSOE, Podemos, and Ciudadanos pages that invited users to participate in a survey.

3.2. Interaction

To answer RQ2 and describe the interaction taking place among citizens who engage with the political parties’ Facebook pages, we analyze the differences in words used in comments and in responses.

First, we develop a contingency table to determine what type of language is used in comments based on the level of engagement. Table 4 shows that the citizens who engage on Spanish political parties’ Facebook walls mostly write comments with polite language, and only 16.3% of messages contain any type of negative language. Nevertheless, the chi-square test indicates that the differences based on level of engagement are significant [$\chi^2 (2, n = 68747) = 429.45, p < .001, V = .079$]. Indeed, the percent of replies with directed negative language is significantly higher than expected ($\tilde{z} = 20.7$), whereas, for comments, the percent of messages with polite language is significantly higher than expected ($\tilde{z} = 18.3$).
Table 4. Comment and response frequencies basted on type of language*

<table>
<thead>
<tr>
<th>Type of language</th>
<th>Total</th>
<th>Comment Level</th>
<th>Response Level</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respectful</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Absolute frequency</td>
<td>41926</td>
<td>15641</td>
<td>57567</td>
<td></td>
</tr>
<tr>
<td>%</td>
<td>85.4%</td>
<td>79.7%</td>
<td>83.7%</td>
<td></td>
</tr>
<tr>
<td>Residuals</td>
<td>18.3</td>
<td></td>
<td>-18.3</td>
<td></td>
</tr>
<tr>
<td>Negative</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Absolute frequency</td>
<td>2001</td>
<td>799</td>
<td>2800</td>
<td></td>
</tr>
<tr>
<td>%</td>
<td>4.1%</td>
<td>4.1%</td>
<td>4.1%</td>
<td></td>
</tr>
<tr>
<td>Residuals</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Directed negative</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Absolute frequency</td>
<td>5186</td>
<td>3194</td>
<td>8380</td>
<td></td>
</tr>
<tr>
<td>%</td>
<td>10.6%</td>
<td>16.3%</td>
<td>12.2%</td>
<td></td>
</tr>
<tr>
<td>Residuals</td>
<td>-20.7</td>
<td></td>
<td>20.7</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Absolute frequency</td>
<td>49113</td>
<td>19634</td>
<td>68747</td>
<td></td>
</tr>
<tr>
<td>%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td></td>
</tr>
</tbody>
</table>

* No cell (0%) has an expected frequency less than 5. The minimum expected frequency is 799.67.
Source: Created by authors.

Table 5. Response frequency based on type of language and party*

<table>
<thead>
<tr>
<th>Type of language</th>
<th>PP</th>
<th>PSOE</th>
<th>Podemos</th>
<th>Ciudadanos</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polite</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Absolute frequency</td>
<td>2980</td>
<td>4971</td>
<td>5177</td>
<td>2513</td>
<td>15641</td>
</tr>
<tr>
<td>%</td>
<td>79.5%</td>
<td>79.6%</td>
<td>79.2%</td>
<td>81.0%</td>
<td>79.7%</td>
</tr>
<tr>
<td>Residuals</td>
<td>-0.3</td>
<td>-0.1</td>
<td>-1.2</td>
<td>2.0</td>
<td></td>
</tr>
<tr>
<td>Negative</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Absolute frequency</td>
<td>169</td>
<td>218</td>
<td>280</td>
<td>132</td>
<td>799</td>
</tr>
<tr>
<td>%</td>
<td>4.5%</td>
<td>3.5%</td>
<td>4.3%</td>
<td>4.3%</td>
<td>4.1%</td>
</tr>
<tr>
<td>Residuals</td>
<td>1.5</td>
<td>-2.8</td>
<td>1.1</td>
<td>0.6</td>
<td></td>
</tr>
<tr>
<td>Directed negative</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Absolute frequency</td>
<td>601</td>
<td>1055</td>
<td>1081</td>
<td>457</td>
<td>3194</td>
</tr>
<tr>
<td>%</td>
<td>16.0%</td>
<td>16.9%</td>
<td>16.5%</td>
<td>14.7%</td>
<td>16.3%</td>
</tr>
<tr>
<td>Residuals</td>
<td>-0.4</td>
<td>1.6</td>
<td>0.7</td>
<td>-2.5</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Absolute frequency</td>
<td>3750</td>
<td>6244</td>
<td>6538</td>
<td>3102</td>
<td>19634</td>
</tr>
<tr>
<td>%</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

* No cell (0%) has an expected frequency less than 5. The minimum expected frequency is 126.24.
Source: Created by authors.

Then, to delve deeper into the messages’ content and the differences based on level of engagement, we analyze the percentage of words with negative emotions, positive emotions,
negations, and insults (Table 6). The Mann-Whitney U test shows that the differences between comments and responses are significant across all four variables. The Rosenthal r values show that the degree of difference is most pronounced in the use of negation adverbs, negative emotions, and insults, which are more common in responses. Though to a lesser degree, the results also show a lower percent of positive emotions in responses.

Table 6. Frequency of words per type of word and level of engagement (comment and response)

<table>
<thead>
<tr>
<th>Level of engagement</th>
<th>Comment</th>
<th>Response</th>
<th>U</th>
<th>r</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Negative emotions</td>
<td>1.70</td>
<td>2.02</td>
<td>4.47</td>
<td>.076</td>
<td>.001</td>
</tr>
<tr>
<td>Positive emotions</td>
<td>4.43</td>
<td>3.34</td>
<td>8.36</td>
<td>.019</td>
<td>.001</td>
</tr>
<tr>
<td>Negation</td>
<td>2.30</td>
<td>3.09</td>
<td>4.20</td>
<td>.120</td>
<td>.001</td>
</tr>
<tr>
<td>Insults</td>
<td>0.18</td>
<td>0.23</td>
<td>4.75</td>
<td>.042</td>
<td>.001</td>
</tr>
</tbody>
</table>

Source: Created by authors

Thus, in user interaction, responses that show some type of hostility directed at other users are more common: Come on man, you’re all a joke, you think you’re all that and you’re gonna’ get crushed. And last but not least, you guys are the classists [...] (Facebook user, PP, 16-12-2015). On the contrary, there are more words with positive emotional valence in comments (chin up, fine, best, etc.), which are normally directed at parties or party leaders: Chin up Rajoy the best.

Furthermore, negations make up a greater percent of the words in directed comments than in un-directed comments. The use of negations such as “no,” “not,” “never,” etc., shows discrepancy with the interlocutor, as we can confirm in this reply: Really? Not even you believe that.

Lastly, more insults appear in the language used to respond to other users than that used in comments. Openly declaring a political position that contradicts the position of the party’s website where a user writes his/her comment typically elicits emphatic responses from those who support the party. The responses include uncivil language, such as personal attacks based on the supposed ideology of the response’s recipient: Fascist piece of shit you’re the one who’s still fooled idiot.

If we focus on the responses published by users on the four parties’ Facebook pages (Table 7), the Kruskal-Wallis test for independent samples indicates statistically significant differences at a univariate level across all four variables: negative emotions \(H(3, 19634) = 7.90, p = .048\), positive emotions \(H(3, 19634) = 21.53, p < .001\), negation \(H(3, 19634) = 64, p < .001\), and insults \(H(3, 19634) = 39.69, p < .001\).

Table 7. Percentage of words in responses, based on party

<table>
<thead>
<tr>
<th>Party</th>
<th>PP</th>
<th>PSOE</th>
<th>Podemos</th>
<th>Ciudadanos</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Negative emotions</td>
<td>2.17</td>
<td>6.02</td>
<td>1.84</td>
<td>4.84</td>
</tr>
<tr>
<td>Positive emotions</td>
<td>3.30</td>
<td>7.53</td>
<td>2.75</td>
<td>6.69</td>
</tr>
<tr>
<td>Negation</td>
<td>3.30</td>
<td>5.92</td>
<td>3.20</td>
<td>5.29</td>
</tr>
<tr>
<td>Insults</td>
<td>0.26</td>
<td>1.89</td>
<td>0.19</td>
<td>1.81</td>
</tr>
</tbody>
</table>

Source: Created by authors
Words with negative emotional valence appear most frequently in the responses by PP and Podemos users, whereas the responses on the Ciudadanos and PSOE Facebook pages have a smaller average number of words expressing negative emotions. Although the \( p \) value indicates low significance and the \( r \) shows a minor effect, the \textit{post hoc} test confirms the differences between the PP responses and those of the two parties closest to the political center: Ciudadanos (\( p = .014, r = .30 \)) vs PSOE (\( p = .021, r = .023 \)).

For positive emotions, the \textit{post hoc} test reveals a significantly more positive tone in the responses of Ciudadanos’ users compared to those of other parties. Thus, there is a small effect on the appearance frequency differences of positive words in the Ciudadanos responses when compared to the PSOE and Podemos responses, (\( p < .001, r = .046 \)) and (\( p = .002, r = .032 \)), respectively.

Looking at the absolute frequency of negation adverbs in the responses, we see that disagreement in the interaction between users is also lower on the new parties’ Facebook pages, and especially, according to the \textit{post hoc} tests (\( p < .001 \)), on Podemos’s page compared to PSOE (\( r = .067 \)), PP (\( r = .053 \)), and Ciudadanos (\( r = .050 \)).

Lastly, the use of insults by Podemos and PP users in their responses is significantly higher when compared to the other two parties. The degree of difference found in the \textit{post hoc} tests (\( p < .001 \)) is greater if we compare the insults contained in the responses made on Podemos’s Facebook page with those made on the Ciudadanos and PSOE pages, \( r = .053 \) and \( r = .041 \), respectively. If we compare the responses on the PP page with these two parties, the effect is smaller, though it is more pronounced with Ciudadanos (\( p < .001, r = .041 \)) than with PSOE (\( p = .033, r = .021 \)).

### 4. Discussion and Conclusion

Although social networks allow for more direct interaction between the citizenry and political representatives, in practice, they are characterized by the party’s communication managers’ unidirectional use of them and the creation of small conversations revolving around the published message (Koc–Michalska et al., 2016; de Sá et al., 2016; Vaccari, 2013). As pointed out by López-García (2016), Larsson and Kalsnes, (2014), and Nitschke et al., (2016), the differences in social networks management strategies stem from a logic of new and old parties.

Similarly, we have detected differences in the citizen engagement on the Facebook profiles of the major Spanish political parties that correspond with this logic. Supporters of the new parties write more comments per post than those of the traditional parties. Here, the increase in citizen engagement does not depend solely on the party’s publication frequency (Xeon et al., 2015), as Podemos, the party that elicits the greatest number of comments and responses, is second in number of posts published. This prolific activity suggests the presence of younger users, who tend to channel their political engagement through reading, commenting, and sharing information on social media (Ekström & Shehata, 2016: 17). Thus, although this paper does not consider the variable of age, the writing style of the users indicates that those engaging on the Facebook pages of Podemos and Ciudadanos are a younger audience. Therefore, we can confirm the generation gap between the younger sympathizers of the new parties and the older ones of the traditional parties, as indicated in national polls (CIS, 2016).

Regarding how citizens interact in these spheres, the results confirm that most of the new parties’ users write comments directed at the party, showing no interest in what other users publish. This type of \textit{prosumption} creates a “conformity cascade” (Sunstein, 2010), and is in keeping with the social media engagement tendencies of younger Internet users, who tend to avoid debate and disagreement (Vromen et al., 2016). Nevertheless, in the traditional
parties we found more users who interact with one another and respond to one another's comments, a tendency also found among younger users, who tend to adopt more proactive positions and engage others so that they mobilize politically and vote.

Likewise, the comment analysis reveals groups that publish duplicate messages on the political parties' Facebook pages on a large scale, especially on the new parties' pages. This interference has many purposes: it may seek to erode the candidate's reputation, announce surveys, or influence the parties' agendas to include new issues. Thus, on political parties' Facebook pages as in digital media (Fenoll, 2015; Noguera, 2010), we detect the presence of Internet trolls who repeatedly publish provocative comments, thereby generating noise and standing in the way of civilized debate among users.

The results of the computerized content analysis indicate that the interaction between people who engage in the Spanish political parties' Facebook pages features language with elevated levels of discrepancy, negative emotions, and insults, in keeping with previous studies (de Sá et al., 2016; Haro-de-Rosario et al., 2016). This uncivil and disharmonious tendency is neither unique to Spain nor to social networks, as it has also appeared in other countries (Camaj & Santana, 2015) and in studies on engagement in digital news media (Fenoll, 2014; Ruiz et al., 2011; Ruiz et al., 2010). It also responds to a generational logic, as the type of language used in users' responses is more polite on PSOE's page, and especially so on that of Ciudadanos. However, the interaction between users on the Facebook pages of PP and Podemos is more polarized, and the responses to dissenting comments are repelled with a greater percentage of negative emotions, personal attacks, and insults. Thus, we can infer that ideological polarization is detrimental to the quality of the interaction, given that the conversation becomes less respectful among users who support the parties that, according to polls, are at the extremes of the ideological spectrum (CIS, 2016).

Nevertheless, the results also point to the greater use of positive emotions in the responses between users who support the new parties. Thus, Facebook users who support Ciudadanos and Podemos tend to replicate the positive discourse registered in these parties' messages (López-García, 2016; Sampietro & Valera, 2015).

In conclusion, citizen engagement on the Facebook pages of Spanish political parties can be explained from a generational perspective, both in terms of the levels of engagement and the emotional tone of the comments therein. Nevertheless, the nature of the interaction between users responds to ideological criteria and depends on the level of polarization in the party whose page they engage with.

This data supports the urgent incorporation of moderation tools on political parties' Facebook pages to prevent duplicate messages from being published and to monitor the use of uncivil or offensive language. This way, social media platforms could improve the conditions under which citizen engagement takes place, as long as the moderate does not act as censor (Camaj & Santana, 2015).

5. Limitations

The study's main limitation is its narrow focus, as it focuses exclusive on analyzing comments published on parties' Facebook pages and ignores those made on the politicians' personal pages. We believe that the party's main page offers a more homogeneous setting better suited to a comparative analysis, and free of the differentiating elements of each individual politician. Nevertheless, future research could also analyze the comments made on politicians’ pages to determine if the same participation dynamics arise as those on the parties' pages.

Moreover, one of the intrinsic limitations of dictionary-based, computerized text analysis is that the calculations ignore words with spelling errors and the variety of personal attacks and ironic expressions in the debate. Thus, citizens' comments should be analyzed...
carefully. Nevertheless, the results on the type of language used in comments resemble those obtained in a study on citizen debate that analyzed a sample of comments made by the same group using manual codification (Valera et al., 2017), which allows us to endorse the use of this tool.

Regarding duplicate comments, researchers would need to use qualitative techniques, such as participant interviews and focus groups, to determine whether trolls or the campaign staff’s efforts to spread the party’s platform are behind the repeated messages.

Finally, regarding the time frame analyzed, we must recognize that the electoral campaign may have favored user polarization because it is difficult for Facebook to be a place for debate and discussing points of view that differ from the party’s main line. Studying longer time frames would help determine what, if any, influence the electoral campaign exerts on the level of engagement and the type of interaction among citizens.

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