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GRETA THUNBERG AS A VIRAL CHARACTER IN THE TWEETS OF THE INFORMATION SECTOR DURING THE COP25 CLIMATE SUMMIT

GRETA THUNBERG COMO PERSONAJE VIRALIZADOR DE LOS TUIT DEL SECTOR INFORMATIVO DURANTE LA CUMBRE DEL CLIMA COP25

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RESUMEN

El objetivo de la investigación fue determinar en qué medida los medios de información publicaron contenidos relacionados con Greta Thunberg durante la cumbre del clima COP25 y cómo fueron las interacciones de esta activista con los medios a través de la red social Twitter, además de analizar el modo en el que los medios de información se valieron del personaje para aumentar su impacto en la red social. Se clasificaron los tuits publicados por los medios de información en relación con la variable mención a Greta Thunberg, a través de pruebas estadísticas no paramétricas, y se estudió cómo los tuits que mencionaban a la activista sueca generaban más o menos engagement que los tuits que no lo hacían. Además, se analizó si el engagement de los diferentes mensajes publicados por los medios lograban engagement diferentes en función de si estos incluían elementos multimedia, URLs o sólo texto. La conclusión principal es que los tuits que incluían mención al usuario @GretaThunberg generaron mayor engagement que los que sólo incluían su nombre, además de que la activista en ningún momento interactuó con las cuentas que la mencionaron. Por otro lado, los tuits con elementos multimedia y los que nos incluían URLs generaron mayor engagement que el resto.

PALABRAS CLAVE: COP25, Twitter, Greta Thunberg, engagement, periodismo, cambio climático.

ABSTRACT

The objective of the investigation was to determine to what extent the information media published content related to Greta Thunberg and how this protagonist's interactions with the media were through the social network Twitter, in addition to determining to what extent the information media have used the character to increase their impact on the social network. After classifying the tweets published by the media concerning the variable mentioning Greta Thunberg, through non-parametric statistical tests, it was studied to what extent the tweets that mentioned Greta Thunberg generated more or less engagement than the tweets that did not. they did. Furthermore, it was analyzed whether the engagement of the different messages published by the media achieved different engagement depending on whether they included multimedia elements, URLs, or only text. The main conclusion is that the tweets that included a mention of Greta Thunberg's user, generated greater

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engagement than those that only included her name, in addition to the fact that the activist never interacted with the accounts that mentioned her. On the other hand, tweets with multimedia elements and those that included URLs generated more engagement than the rest.

KEYWORDS: COP25; Twitter; Greta Thunberg; engagement; journalism; climate change

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1. INTRODUCTION AND OBJECTIVES

Every time an event of global scope occurs, whether it is something unexpected or if it is an event organized in advance, social networks become an active forum for the exchange of information and debate, a phenomenon approached from multiple approaches (Kim; Hastak, 2018; Hassan et al, 2018; Demszky et al, 2019; Guallar et al, 2016) and through concrete examples of viralization in social events and movements, either specifically in previous climate summits (Segerberg; Bennet, 2011) or any other topic of debate (Shiau Chou et al, 2020) or global event, such as the recent covid-19 pandemic (Noor et al, 2020).

This flow of information is especially striking on Twitter, especially if the topic is perceived as a matter of general interest and has the participation of actors who stimulate the discussion and gather attention around them. An example of this has been the COP25 World Climate Summit held in Madrid (Spain) in December 2019, in which the two aforementioned elements were present. On the one hand, climate change, which has settled at the center of the political and citizen agenda, and whose footprint on social networks has already been studied in previous summits (Hopke; Hestres, 2018; Tyagi; Babcock; Carley, 2019). On the other hand, the irruption in the conversation of the Swedish media activist Greta Thunberg, present at the summit, whose relevance is unquestionable both on Twitter and in the social and political debate.

In the first case, her verified account accumulates 4.5 million followers and close to 9,000 tweets published in two and a half years (data as of January 2021). Furthermore, in the weeks before the summit, this social network was one of her main communication channels, such as during her boat trip, which was followed through the account @Sailing_LaVaga and the hashtag #LaVagabonde, the name of the catamaran in which she was traveling.

Regarding her social and media repercussion, Thunberg has been nominated twice (2019 and 2020) for the Nobel Peace Prize, she was one of the winners of the Right Livelihood Award 2019 (also known as the “Alternative Nobel Prize”) three months Before COP25, and two days before the end of the Madrid summit, she was named the person of the year by Time magazine, the youngest to receive this recognition in the 93-year history of this award. Furthermore, she has spoken before the main leaders and with some of them, she has held official meetings, such as with the Chancellor of Germany, Angela Merkel.

Beyond the individual contributions of Twitter users, a good part of the discussion on this social network revolves around what is published by the media, which see more and more on this social network (Nielsen; Schroder, 2014) an interesting channel to increase the traffic of their information, within their role, adapted to the new times, of setting the public agenda (Skogerbo; Krumsvik, 2014) selecting the debate topics -gatekeeping- (McQuail, 2016) and adapting the political concept of agenda-setting (Alonso-Muñoz; Casero-Ripollés, 2018) to the new formats and the proposals of topics made by the users themselves (Singer, 2014; Coddington; Holton, 2014). And as for the activism aspect, social networks are undoubtedly first-rate speakers for NGOs (Blight; Ruppel; Schoenbauer, 2017; Carrasco-Polaino; Villar-Cirujano; Martín-Cárdaba, 2018).

With these four elements (the social network Twitter, the Climate Summit, the media, and the media-figure/activist), this research aims to answer a series of questions:

1. To what extent did the media publish content related to Greta Thunberg?
2. Did they regularly resort to mentioning her directly in their posts to increase engagement?
3. Did this strategy work, that is, did the mention of Greta Thunberg translate into a greater engagement of the tweets?
4. On a formal level, to what extent did these messages contain videos, images, memes, or just text?
5. Did the choice of one or another format influence the viralization of the tweet?
6. How was Greta Thunberg's interaction with the media through Twitter, if any?

2. METHODOLOGY

To answer these questions and hypotheses, all the tweets and their respective interactions (responses, mentions, and retweets) containing the hashtag #cop25 between December 2nd and 12th, 2019, dates on which the summit was held, were downloaded through the NodeXl pro program (Smith, 2010).

From the database generated with all the interactions (n=67,431), those messages and interactions published by the media and journalists who had their Twitter user account verified (n=350) and Greta Thunberg's interactions with those of the issuers were filtered. With these data, a graph was generated to determine the relationship that the different media had with Greta Thunberg and vice versa (mentions, responses, and retweets) regarding the topic of the event.

In a second step, the engagement generated by each of the actions was calculated. Engagement on Twitter is generally defined as the interaction rate. It is an index that

measures the ability of a tweet to generate interest or action on Twitter. It is a relevant index because besides establishing an emotional relationship with users, it has value when the Twitter algorithm organically shows content on the timelines of the different users with whom there has been interaction (Tornos Inza, 2020). It is not about the number of followers, but the degree of involvement or interest that followers present to certain publications (Montells, 2016). There are two most widespread ways to calculate engagement or interaction rate: in the first of them, the total of interactions received by a tweet is divided by the number of impressions (the number of people who have received it on their timeline). In the second, the total number of interactions received by the tweet is divided by the number of followers of the author of the tweet (Tornos Inza, 2020; Montells, 2016). In this way and due to the type of data collected and its structure, it was decided on the second mentioned formula. Thus, the operation used to calculate engagement was established as engagement = ((total interactions received) / number of followers) *100 (Herrera-Torres et al., 2017).

For each publication, a content analysis was carried out (Piñuel-Raigada, 2002) through a previously designed file that consisted of the following items:

- Type of account: to determine if the issuing user was a corporate media outlet or a professional journalist from their private account.
- Type of publication: a distinction was made between published original tweets, mentions, replies, retweets, and mentions on retweets.
- Contains multimedia elements: In this way, a distinction was made between publications that had an image, a video, or an animated GIF inserted in their body and those that did not contain any of these resources.
- Contains URL: The publications that contained in their body a URL that could be clicked and it directed to a page or element other than the tweet and its interactions were distinguished.
- Mentions Greta Thunberg: Those publications that included Greta Thunberg's name in their body were identified from those that did not.
- @Gretathunberg is mentioned: In this case, the publications that directly included the identifier of Greta Thunberg's account (@gretathunberg) in their body were selected.

To analyze the engagement of each post according to the different variables, previously those publications that presented an atypical engagement (outliers) were identified and filtered through the calculation of the typical engagement scores of each post. As the sample was of more than 80 records, it was decided to filter those posts with a typical score with a value higher than the absolute value of 3 (Estrada et al., 2004).

Six records with atypical engagement were identified, which were filtered and not processed together with the rest for the inferential statistical analysis.

To determine the application of the type of statistical tests that allowed us to see how engagement varied following each of the other variables and if the presented differences were statistically significant, normality tests were performed using the Kolmogorov-Smirnov (Massey, 1951) or Shapiro-Wilk (Royston, 1992) systems, depending on whether the sample of each group within each of the variables was greater or less than 50 records.

The normality tests showed negative results, so it was decided to do a non-parametric analysis through the Mann-Whitney U test (MacFarland et al., 2016) if the variable to be analyzed presented two Kruskal-Wallis groups (Ostertagová et al., 2014) when the variables presented more than two groups.

3. ANALYSIS OF RESULTS

3.1. Frequency analysis

After filtering the downloaded data, 18 journalists with verified accounts and 122 media outlets that met the same condition were found that had published a tweet during the celebration of COP25 using the hashtag #COP25.

The analysis of the frequencies of these publications presented the following results:

Table 1. Frequency table.

Type of account	**Frequency**	**Percentage**
Media and shows	305	87.1
Journalists	45	12.9
Total	**350**	**100.0**
Type of publication	**Frequency**	**Percentage**
Tweet	186	53.1
Mention	124	35.4
Response	3	0.9
Retweet	12	3.4
Mention on retweet	25	7.1
Total	**350**	**100.0**
Contains multimedia elements	**Frequency**	**Percentage**
Yes	175	50.0
No	175	50.0
Total	**350**	**100.0**
Contains URL	**Frequency**	**Percentage**
Yes	221	63.1
No	129	36.9
Total	**350**	**100.0**
Greta Thunberg is mentioned	**Frequency**	**Percentage**
No	284	81.1
Yes	66	18.9
Total	**350**	**100.0**
@Gretathunberg is included	**Frequency**	**Percentage**
No	332	94.9
Yes	18	5.1
Total	350	100.0

Source: self-made.

The 140 analyzed users carried out different types of actions on Twitter during the celebration of the Climate Summit. Of all the publications and interactions carried out (350), individual journalists made 12.9% (45) of the total of the entire information sector, and the media 87.1% (305).

The distribution of the 350 interactions was not homogeneous. 53.1% of the actions were original tweets, 35.4% (124) mentions to other users, 7.1% (25) retweets where the mention of other users was included, 3.4% (12) retweets, and 0.9% (3) responses to others.

Regarding the insertion of a multimedia element, whether in video or image format within the body of the publication itself, the data gave completely homogeneous results since half of the publications contained a multimedia element and the other half did not.

The insertion of URLs that led to external content presented results in which 63.1% (221) of the publications contained some URL in which the user could click and exit the specific publication to another website or publication. The remaining 36.9% (129) were publications where you could not click on any link because it was not offered, so they only allowed the user to see the interactions with that specific publication.

Regarding the mentions of Greta Thunberg on Twitter by the information sector, 18.9% (66) of the total mentioned the activist in the body of the publication or mentioned her Twitter user, thus linking the publication with the user account.

When the publications that mentioned Greta Thunberg by her identifier were isolated, filtering those that mentioned her by inserting her name in the body of the tweet, the data showed that 5.1% (18) of all publications had this characteristic.

That is, almost three out of four users who refer to Thunberg, do so without mentioning her profile. This omission, conscious or unconscious, may be due to various motivations: that the user prefers to comment "giving their back" to the activist because they do not want to interact with her, that they consider that making a direct mention of Thunberg will not bring them any benefit, that they did not take into account the possible positive effects of the mention on viralization, they did not want to spend time looking for her official account... Whatever the explanation, it is impossible to scientifically determine it.

3.2. Analysis of engagement

After performing the different statistical tests that will help to relate the engagement generated by each tweet, reply, mention, retweet, or mention on retweet according to each of the variables that have been described previously, the obtained results are shown and described in the following data tables:

Table 2. Engagement based on the type of publication.

Type of publication	Average	N	Standard deviation
Tweet	0.120%	181	0.359%
Mention	0.127%	122	0.378%
Response	0.215%	3	0.310%
Retweet	0.537%	12	0.917%
Mention on retweet	0.142%	25	0.367%
Total	**0.139%**	**343**	**0.402%**

Source: self-made.

Retweeting is the type of interaction that generated the most engagement (a=0.53%; sd=0.91%) followed by responses (a=0.21%; sd=0.31%). Lagging behind in terms of achieved engagement are, mentions on retweets (a=0.145; sd=0.36%), mentions (a=0.127%; sd=0.37%), and original tweets (a=0.120%; sd=0.35%). However, the Kruskal-Wallis test did not indicate that the differences in engagement were large enough to be considered significant (p=0.52).

Table 3. Engagement based on multimedia elements.

Contains multimedia	Average	N	Standard deviation
Yes	0.142%	172	0.399%
No	0.137%	171	0.406%
Total	**0.139%**	**343**	**0.402%**

Source: self-made.

The Mann-Whitney U test did not show significant differences either when it came to analyzing engagement as a factor modified by the insertion of multimedia elements in the body of the publications (U=14,729.5; p=0.98), even though the publications that did insert some type of multimedia element, whether it was video, image, or animated GIF, obtained a higher engagement (a=0.142%; sd=0.39%) than those that did not (a=0.137%; sd=0.40%).

Table 4. Engagement based on URLs.

Contains URL	Average	N	Standard deviation
Yes	0.096%	217	0.361%
No	0.214%	126	0.456%
Total	**0.139%**	**343**	**0.402%**

Source: self-made.

The fact that the publications included a URL in their body that led to a foreign website or content did have statistically relevant effects on engagement (U=17,522.5; p<0.001). The posts with URLs obtained a lower engagement (a=0.096%; sd=0.36%) than those that did not allow abandoning the publication or its direct interactions through a URL (a=0.21%; sd=0.45%).

Table 5. Engagement based on Greta Thunberg.

Greta Thunberg is mentioned	Average	N	Standard deviation
No	0.141%	277	0.428%
Yes	0.132%	66	0.265%
Total	**0.139%**	**343**	**0.402%**

Source: self-made.

The fact that Greta Thunberg was mentioned in the content of the publication did not have relevant effects on the engagement of the different publications (U=10,101.5; p=0.18). Publications that included the name of the young activist in their content obtained lower engagement (a=0.13%; sd=0.26%) than those that did not (a=0.13%; sd=0.40%).

Table 6. Engagement based on @gretathunberg.

@Gretathunberg is mentioned	Average	N	Standard deviation
No	0.133%	325	0.403%
Yes	0.257%	18	0.371%
Total	**0.139%**	**343**	**0.402%**

Source: self-made.

However, the publications that included the identifier @gretathunberg in their content did obtain a higher engagement, whether they wrote the name of Greta Thunberg or not. The former obtained an average engagement of 0.25% with a standard deviation of 0.37%, while those that did not directly point to the activist's user account obtained a lower engagement (a=0.13%, sd=0.40%). These differences were shown to be statistically significant (U=3,742; p<0.05).

4. DISCUSSION AND CONCLUSIONS

Original tweets generated less engagement than any other type of interaction, although the differences were not significant. Despite these non-relevant differences, it was possible to have responded to user publications besides retweeting, seeking greater engagement in the accounts of media outlets and journalists. Posting original content on Twitter and not following up on it by interacting with users and responding to their observations and comments, does not allow us to squeeze the potential of the social network.

When preparing a post on Twitter, it was not relevant in terms of engagement if any multimedia element was included in it, be it an image, video, or animated GIF since this feature did not affect the achieved engagement. However, inserting a URL into the content did have negative effects. By inserting a URL, the recipient is being offered an alternative to leave the conversation or the social network and send them to an external website. As an informative strategy, it could be correct if these links are directed to information or content from the same media outlet or journalist, because despite reducing the interaction with the tweet, visits to the destination website to which the

URL directs are increased, thus fulfilling the fundamental objective for which the media resort to this microblogging network.

Regarding this aspect, if the media and journalists planned to use Twitter as a tool to promote their own content hosted on their respective websites, the strategy of inserting links to their information could be considered correct. However, if the goal was to use Twitter as a standalone information-and-conversation channel, inserting a URL into posts might have been an error.

The topics covered by the information sector on Twitter during the celebration of the climate summit were varied and did not focus exclusively on the character of Greta Thunberg (she is mentioned in 19% of all publications).

Greta Thunberg did not react to any of the mentions received, nor did she respond, retweet, or mentioned on a retweet, drastically reducing the potential engagement of Twitter posts from news industry accounts. Surely, if any of the posts published by the media or journalists who had mentioned the @gretathunberg account had received a reaction from her, these tweets would have become much more viral. It should be noted that when a user is mentioned in any tweet, they receive an alert, whereas, if instead of the user's account identifier what is included in the body of the publication is their name, this alert is not executed, so it is difficult for the person mentioned to take any action on this publication (they do not know that they have been mentioned), thereby reducing its potential viralization. For this reason, it could be considered an error on the part of the information sector to have not included in the publications that dealt with topics related to Greta Thunberg her user account instead of her name as text. However, it is impossible to determine in which cases the absence of direct mention is a voluntary or involuntary act, even if logic leads to thinking about the latter regarding the media.

The action of journalists and the media on Twitter during the climate summit held in 2019 in Madrid focused on the dissemination of their own content through URLs inserted in their tweets, without making subsequent efforts to maintain the conversation about the published topics. The conversation did not focus on the character of Greta Thunberg, but when they did inform about her, the potential of having such a media figure in the event was not exploited, as her username was not included in the tweets.

Despite the obvious limitations implicit in every analysis of a specific event, such as the reduced time frame or the limitations of the tools for obtaining complete data that overcome the barriers imposed by social networks, the conclusions of this study show the convenience that for the media may have to focus their efforts on Twitter on simple decisions that do not require deep training in social networks, such as not including external URLs to avoid diverting traffic or directly mentioning the account of a media figure related to the topic of discussion to increase engagement, instead of making an indirect mention. Subsequent studies on other discussion topics in which the two elements analyzed now coincide (a global event and a figure with great media coverage) will show whether these patterns are repeated, nuanced, or modified.

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