It's the End of the World as We Know It: Climate "Doomism" and Activism on Twitter

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Abstract

With the instant accessibility of media, the quick and widespread knowledge of environmental catastrophes can make the current climate crisis seem hopeless. Some are optimistic, while others are downright nihilists about the situation, treating any possible efforts to improve our environmental situation as futile. Still, there are people fighting for climate activism and action. Through the use of Tweepy, we can analyze tweets surrounding the subject of climate change to see the proportion of climate "doomists" versus "activists" and learn how to proceed in the climate crisis.

Fig 1. An example of climate "doomism"

Introduction

As Michael Mann wrote, "there is a segment of the climate activist community that not only *overstates* it, but displays a distinct appetite for all-out doomism—portraying climate change not just as a threat that requires urgent response, but as an essentially lost cause, a hopeless fight." This doomism, a kind of "climate nihilism" has been very present on social media. Through my experience on twitter, it has made the climate crisis, at some times, feel so horrid that it would be useless to do anything about it.

Warren Pearce et. al. conducted the first comprehensive review of academic articles devoted to social media and climate change in late 2018. Around a third of the papers they studied revolved around twitter. They also found a dominating presence of polarization in the climate debate, alongside echo chambers within each side. Further, they pointed out the gaps in the research; for example, smaller scale studies, non-textual approaches, and cross-platform studies.

Although Pearce et. al. found many studies on the polarization in social media, these studies characterized the sides on a spectrum from skeptic to activist, with neutral in between. In a 2020 study on climate discourse polarization on Twitter, Tyagi, Uyheng, and Carley made the divide between "believers" and "disbelievers." This eliminates the nuances in the debate. There have not been many studies on doomism and nihilism on this spectrum of opinion, which exists in an interesting intersection of skepticism and activism. Since the public opinion of climate change, the events of the climate crisis, and social media in general are constantly in flux, it will be helpful to have a more current understanding of the divide between climate activists and doomists on twitter.

Fig 2. An example of climate activism

Methodology

With the help of Professor Chun, I used Google Colaboratory to collect and analyze tweets about climate change. Using Tweepy, the program scraped data from twitter with the search terms "'climate," "climatechange," "temperature," "globalwarming," "climatecrisis," "environment," and "sustainability." Next, I cleaned the tweets of symbols that could complicate and confuse the data, like emojis, @ signs, slang, and emoticons. I then created a pandas series of the most frequent words and installed Word Cloud to create a visualization of the top used words. I used the search term "climate action" as a control to see if the word clouds and frequency could show a difference in the proportion of activism and doomism. Next, I used just the term "climate" to analyze the proportion of doomism and activism in comparison to the "climate action" word cloud and frequency. For each search term, the maximum number of tweets was set to 1000.

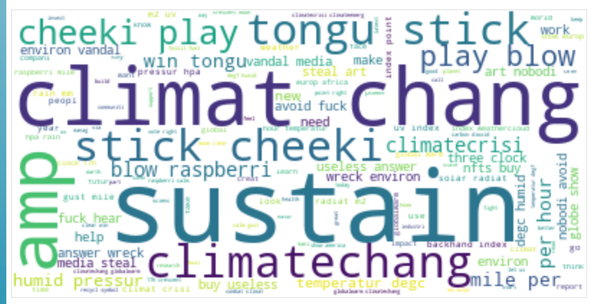

Fig.3 Word cloud of the most popular terms associated with the search terms "'climate," "climatechange," "temperature," "globalwarming," "climatecrisis," "environment," and "sustainability."

Results

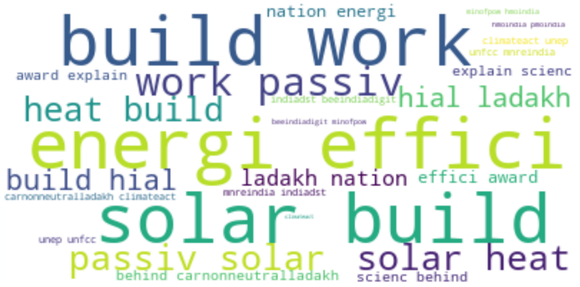

Fig4. Word cloud of the most popular words used in the search term "climate action"

When examining the word clouds around the terms "climate," "climatechange," "temperature," "globalwarming," "climatecrisis," "environment," and "sustainability," there seems to be a mix of terms that point to both climate activism and doomism. To narrow down on these terms, I did a word cloud analysis of just the word "climate" and then the term "climate action" to see if the inclusion of an active word (action) points to a greater frequency of words around activism and productive approaches to the climate crisis. Whereas the most frequently used words in the longer list of search terms were pointing towards a more pessimistic, nihilist approach, the most frequently used words in the search "climate action" pointed towards activism. For instance, the word cloud for the longer list of terms included words like "useless," "wreck," and "fuck."

However, there was still a presence of words like "learn," "need," and "help," showing some activism in the mix. Conversely, the word cloud for "climate action" emphasized words like "solar," "build," "work," and "energy," which push forward the idea of productive change. When just using the term "climate," the word cloud returned terms like "future generation," "lockdown" "extreme weather" "crisis" "pay attention" and "fight."
The most frequent root words used when searching "climate," are "climat," "change," "amp" and "crisi" while the most frequently used root words when searching "climate action" are "climateact," "solar," "build," and "work."

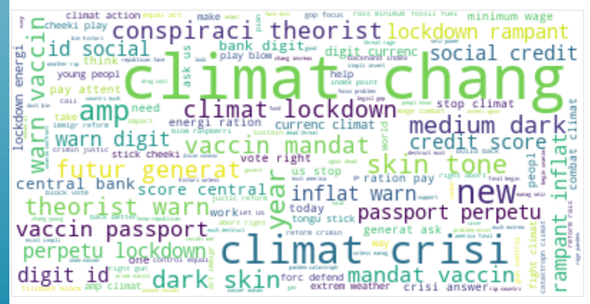

Fig5. Word cloud of the most popular words used in the search term "climate"

Conclusion

The dominance of active words like work and build in the climate action word cloud proved it to be an adequate control to compare the data from the other search terms. When using just the word "climate," the frequent words in comparison were much less active, although not downright nihilistic. However, when using a greater amount of search terms, encompassing a greater variety of the types of tweets generated, the results were much more negative, pointing towards a greater dominance of "doomism" on twitter. However, there were still many positive words connoting change, especially in the most frequently used words for the search "climate." The proportion of active, productive words used in tweets about climate ended up being much larger than expected, showing that there is a substantial amount of twitter users who still have hope in changing our future in the climate crisis.

In future research, it would be helpful to consider other social media and news outlets, as twitter users may be among the more pessimistic social media users, creating a certain bias towards doomism. It would also be helpful to conduct a study using topic modeling to search for the exact proportion of words connoting doomism or activism in climate change discourse.

References

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