



## Commentary

## Corona crisis fuels racially profiled hate in social media networks

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The COVID-19 pandemic has the world firmly in its grip with more than 2.5 million confirmed cases worldwide [1] and over 100 countries in full or partial lockdown [2] (as of April 24th, 2020). Although political leaders call for solidarity and people all over the world have started support initiatives, various incidents prove that the corona outbreak has also given rise to a series of discrimination and racist attacks against Chinese people and people with Asian looking features [3–5]. These attacks are not restricted to the physical space but pertain to social media networks as well. Already on January 24th, the hashtag “#Chinese-Don'tComeToJapan” was trending on Twitter, with Chinese tourists being labelled as “dirty” and “insensitive” [6].

We investigated the use of discriminating and stigmatizing language against Chinese people in the context of the COVID-19 pandemic on Twitter. To this end, we recorded English tweets containing a set of key word combinations<sup>1</sup> linking the coronavirus to Sinophobe terms. After applying some basic data filtering, we created a time series showing the daily count of these tweets between January 1st and March 31st 2020 (Fig. 1A). This tweet count is to be understood as representative only because the scraping procedure yields only up to 1% of the total tweet volume associated with the search words. Furthermore, our list of search words is not exhaustive. We also assessed the number of likes these tweets received (shown as circles in Fig. 1A). People who like a Sinophobe statement express their

agreement thereby amplifying the force and potentially the reach of the discrimination.

The first death due to the novel virus was recorded on January 11th in Wuhan. Up to that point, only few tweets match our set of derogatory language. Then, the tweet count slowly climbs up until it reaches preliminary peaks on the 26th and the 31st of January. These peaks can be explained by the virus spreading at accelerated speed within China and beyond – now affecting other countries as well. By the end of January, the cumulative number of Sinophobe tweets in our dataset reaches almost 10,000 (nearly 200,000 including likes). In February, China imposes strict quarantine measures and case numbers seem to stabilize within the country. Accordingly, discriminatory tweets decrease as well. However, the occurrence of hateful tweets soars again at the end of February as the disease and its economic consequences spread across the world and become a tangible threat to a large share of the world's population. On March 11th the WHO declares the COVID-19 outbreak a pandemic; stock markets around the world crash [7]. Within the first half of March, the number of offensive tweets in our dataset increases by more than 1000%. In the second half of March, as the epicenter of the pandemic shifts away from China, the tweet count stabilizes on a high level (~2500 tweets per day). Attacks are directed towards Chinese eating habits, hygiene standards and Chinese culture in general.

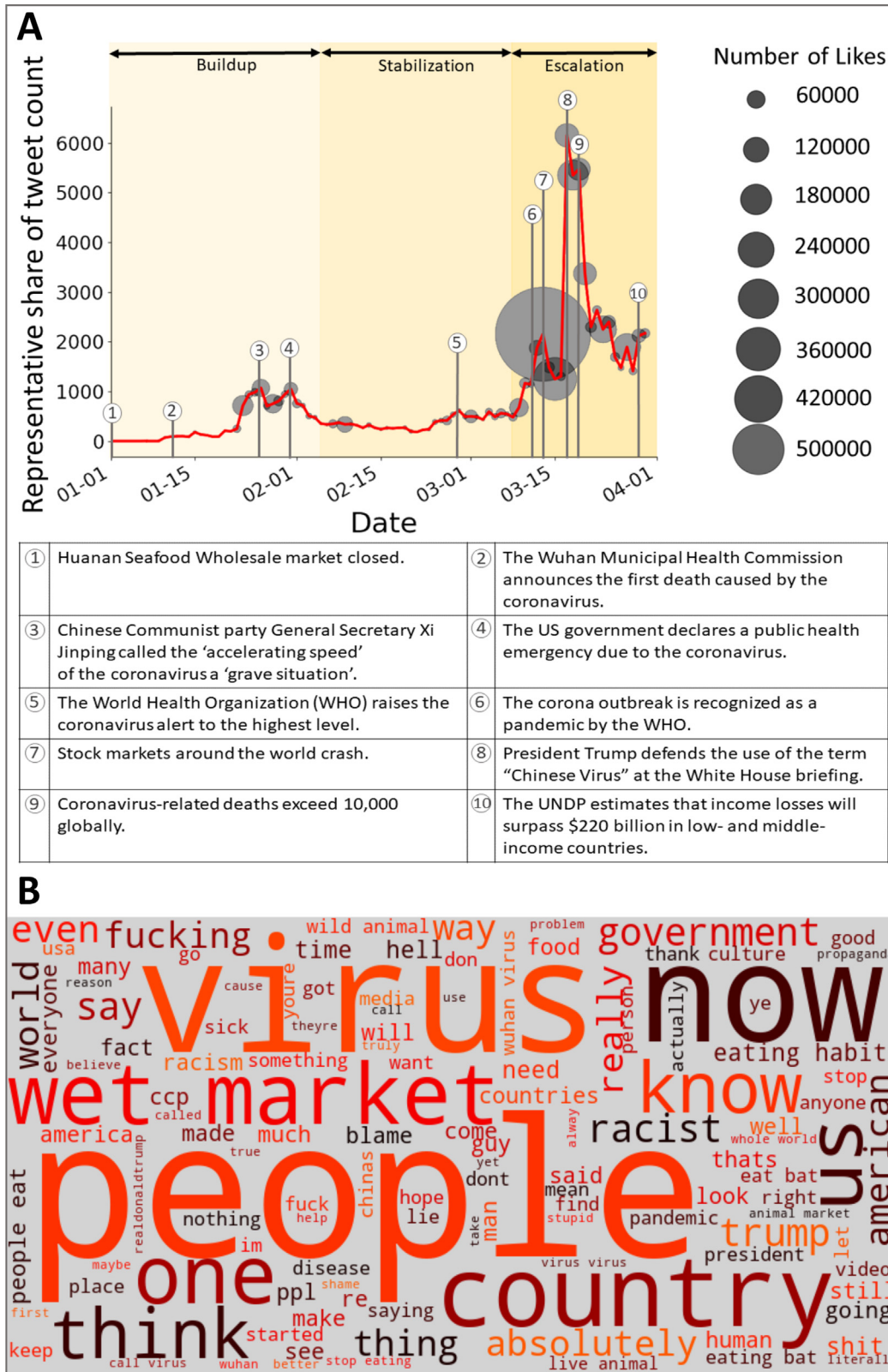
To better understand the content of the tweets, a word cloud was generated (Fig. 1B). For this analysis, all tweets were pooled, all search terms\* were excluded and a standard Natural Language Processing preprocessing pipeline [8] was applied. The size of a word in the image represents its frequency within our dataset. Most dominant are the words ‘virus’ and ‘people’, followed by swear words and insults. Yet, we also see expressions like ‘eating habit’, ‘market’, ‘wuhan’ and ‘animal’ which indicate tweets referring to the origin of the virus through wild animals at the Wuhan market. A second contextual cluster consists of the terms ‘blame’, ‘cause’, ‘started’ and ‘reason’ suggesting discussions on the topic of blame for the disease and the outbreak.

Recent research shows that there is a connection between racially profiled online hate speech and racially motivated crime [9]. The accusations and stigmatization targeting Chinese people on social media networks might hence pave the way to an even sharper increase in physical violence and fuel conflicts between different groups. Especially in times of crisis and challenges it is important to withstand the urge to find a culprit or direct frustration and hatred against specific groups. Instead, we should stand together and show solidarity and

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<sup>1</sup> Search word combinations: Chink AND Corona, Chink AND Coronavirus, Chinese AND disgusting, Chinese AND Corona AND hate, Chinese AND Corona AND dirty, Chinese AND Covid19 AND dirty, China AND disgusting, China AND Covid19 AND dirty, China AND Coronavirus AND dirty, Asian AND Corona AND hate, Asia AND Covid19 AND hate, Asia AND Coronavirus AND hate



**Fig. 1.** A: Development of discriminating tweets against Chinese people under the corona outbreak. Tweets could also report discriminatory behavior or incidents. Size of bubbles indicates the number of likes all Sinophobe tweets at a given day received. After an initialization period with first peaks in January, the number of offensive tweets stabilizes in February. It then picks up again and escalates in March. B: Word cloud illustrating which words are used most frequently in our data set of Sinophobe tweets. Font size reflects frequency of a word. Search words are not included.

compassion across borders. As the civil rights coalition Asian American Advancing Justice tweeted in response to the corona crisis: "Language that fans flames of xenophobia endangers our communities who are

experiencing heightened discrimination. @GOPLeader, elected officials, and media need to focus on facts to protect our public health, not spread fear and stigma." [10].

## Author contributions

AS conducted the data analysis and prepared the figures. AS and LW designed the study and wrote the manuscript. AS, LW and AL discussed and interpreted results.

## Declaration of Competing Interest

The authors have nothing to disclose.

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