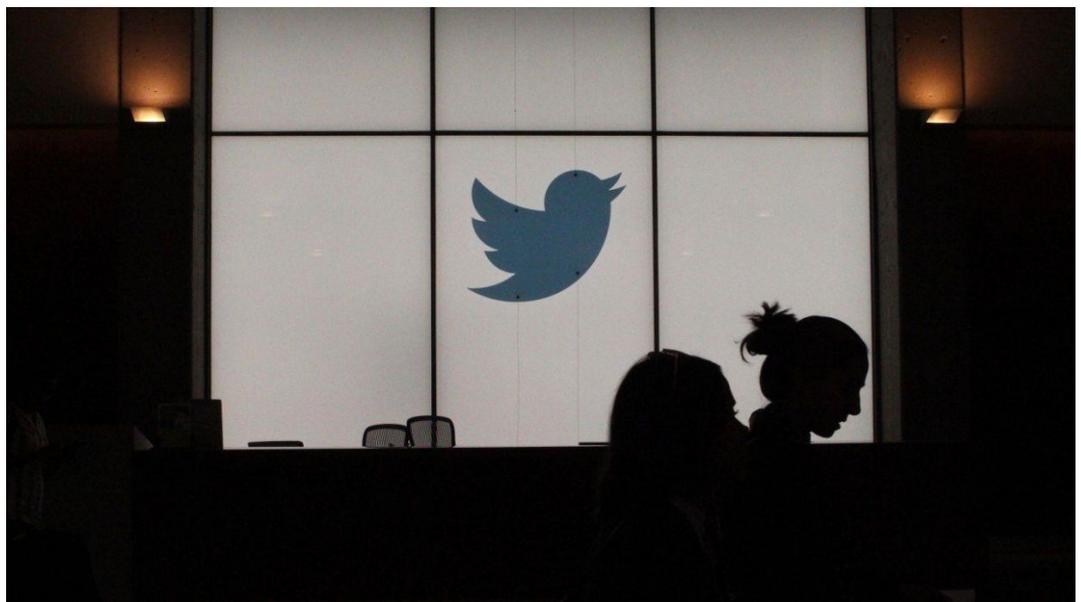# On Twitter, fear of the coronavirus pandemic has given way to anger, sadness and hope, study finds

TWITTER

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By **Tracy Qu**

Tweets from more than seven million unique users from Jan 28 to April 9 were collected, using keywords 'wuhan', 'corona', 'nCov', and 'covid'. — SCMP

The fear that people had at the start of the coronavirus outbreak eventually gave way to anger, sadness and even joy over the course of the pandemic, according to the findings of a study led by Singapore's Nanyang Technological University (NTU).

In an analysis of over 20 million English language tweets related to Covid-19, researchers found that public emotions shifted from fear to anger when, for example, the discussion was on isolation fatigue that can occur from social seclusion, indicated by words such as "stay home" and a number of swear words.

Sadness was highlighted by key words related to losing friends and family members, while tweets related to joy included words of gratitude and good health, researchers noted in the report.

"If such overbearing public emotions [like anger] are not addressed through clear and decisive communication... there is potential for the emergence of issues such as breeding mistrust in the

handling of the disease, and a belief in online falsehoods that could hinder the ongoing control of the disease," said Professor May O. Lwin of NTU's Wee Kim Wee School of Communication and Information.

The pandemic, which first broke out in Wuhan, central China, last December, took 100 days to reach one million cases globally, according to the World Health Organisation (WHO). In comparison, [there were one million new cases in a period of five days, with the global case count reaching 13 million on Monday, including more than 570,000 deaths.](#)
The study, which was co-authored by researchers from Tianjin University, University of Lugano and University of Melbourne, was published in the scientific journal *JMIR Public Health & Surveillance* in May.

Tweets from more than seven million unique users from Jan 28 to April 9 were collected at the Institute of High Performance Computing in the Agency for Science, Technology and Research in Singapore, using "wuhan", "corona", "nCov", and "covid" as search keywords.

In an extension of the study period, tweets collected and analysed from early April to mid-June showed that positive sentiments exceeded fear when it came to social media posts.

Xenophobia was a common theme among anger-related tweets, progressively increasing as a proportion of total tweets until they peaked on March 12, a day after the WHO declared Covid-19 a pandemic, according to the study.

At the beginning of the pandemic, when the disease was predominantly confined to China and Asia, the study found that people expressed their feelings by using words such as "racist" and "Chinese people".

After March 12, tweets expressing anger slightly decreased but remained at a relatively high level. At the same time as the levelling of tweets related to fear and anger, posts related to sadness and even joy slightly increased. – [South China Morning Post](#)