Global Prevalence Patterns of Anti-Asian Prejudice on Twitter During the COVID-19 Pandemic

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INTRODUCTION

- On January 30, 2020, the World Health Organization (WHO) declared the spread of the SARS-CoV-2 to be a public health emergency (Google Trends, 2021; World Health Organization, 2021).
- The terms COVID-19 and coronavirus were developed to avoid any cultural, social, regional, or ethnic associations when naming a disease (World Health Organization, 2021).
- However, given the origins of the virus, COVID-19 was frequently referred to in the media as the ‘Chinese virus’, the ‘Wuhan virus’, and the ‘Asian virus’ (Darling-Hammond et al., 2020; Grover, Harper, & Lam, 2020; Lovescu, 2020; World Health Organization, 2020).
- The use of these terms has led to an increase in in-person and online anti-Asian prejudice during the pandemic (Ruiz, Edwards, & Lopez, 2021).
- In the United States, there was a 145% increase in reports of anti-Asian hate crimes and physical violence to the police in 2020, as compared to previous years (Klevin & Graham, 2021).
- The Anti-Defamation League reported an 85% increase in anti-Asian discrimination online (Anti-Defamation League, 2020).
- Nguyen et al. (2020) found a 64.4% increase in anti-Asian racism on Twitter during the pandemic, while negative tweets towards other races remained stable.
- Asian individuals who have been subjected to racism report increased levels of depression, anxiety, stress, and chronic diseases (Garcia et al., 2009; Vives et al., 2017).

Current Study

- The aim of this study is to present exploratory and descriptive analyses on anti-Asian prejudice and counter-messaging on Twitter during a 15-month period of the COVID-19 pandemic and to comprehend the spread of racist content on Twitter during the pandemic.
- The study presents global figures that incorporate data on COVID-19 cases with temporal trends in positive and negative tweets.

METHOD

- Using the Twitter Data Collection API, we queried tweets containing positive and negative hashtags related to anti-Asian prejudice from January 30, 2020, to April 30, 2021.
- The total sample consisted of 13,008,053 tweets from 3,298,940 distinct users.
- Using a fuzzy text matching algorithm, user-reported locations and predetermined locations were matched using the edit distance metric (Cohen, 2022).
- All the data was collected according to Twitter data collection guidelines and using the proper API access provided to researchers (A. D. Dahy, “The Health and Surveillance, vol. 6, ed. 4, 10.2196/19833, 2020). 2020 resurgence of cyber racism during the COVID-19 pandemic and its impact: Analysis of sentiments and emotions in Tweets”, NIH Public).
- We refer to anti-Asian content as “negative” and counter-hate content as “positive.”
- We selected these hashtags based on a review of relevant literature on anti-Asian prejudice (He et al., 2021) and news publications (Cava & Los, 2020; Chiu, 2020; Shih, 2020), during the beginning of the pandemic.

RESULTS

- Globally, 4,521,457 distinct tweets contained at least one of the 12 negative keywords, with most of this content generated in the U.S. and India (USA = 233,705 tweets; IND = 228,621 tweets). 6,660,469 distinct tweets contained at least one of the 5 positive keywords, with most of the positive content also generated in the U.S., followed by Thailand (USA = 263,827 tweets; TH = 82,696 tweets).
- Top three positive content generator countries were – USA, Thailand, and Canada. Whereas top three racist tweet producer countries were – USA, India, and Brazil.
- However, given the origins of the virus, COVID-19 was frequently referred to in the media as the ‘Chinese virus’, followed by ‘chinavirus’ and ‘chinesevirus.’
- Although there were more tweets containing positive keywords, overall, these tweets were mainly generated between February 2021 and April 2021. The most frequently used positive keywords were “stopasianhate” and “hateisavirus.”
- We also assessed the proportion of keywords within original tweets and retweets.
- Three of the four most frequently retweeted keywords were positive, implying that tweets containing negative keywords may have been less appealing to share (i.e., retweet). 88.02% of tweets referencing the “stopasianhate” keyword were retweets.

DISCUSSION

- The present study investigated temporal and geographic trends in anti-Asian prejudice and counter-hate messages on Twitter in the 15 months after the World Health Organization declared COVID-19 a public health emergency. Our findings indicate that the increased prevalence of anti-Asian prejudice during the early stages of the pandemic was a global phenomenon (X. Tan, R. Lee, and L. Shih, 2020).
- Specifically, marked increases in anti-Asian hate on Twitter occurred during the months of February 2020 and March 2020.
- Our analyses also revealed geographic differences in the frequency of negative (anti-Asian) and positive (counter-hate) content generated by Twitter users on a global scale.
- By disaggregating the data according to tweet type (e.g., original tweet versus retweet), a more nuanced understanding was gained regarding the sharing of anti-Asian and counter-hate messages, including the ways and extent to which they are shared.

Limitations

- Only tweets containing at least one of the (English language) anti-Asian hashtags and keywords were queried.
- Further research on anti-Asian content on Twitter is important because it's possible for content containing prejudice towards Asians to be posted without utilizing one of the 13 chosen hashtags.

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