

Understanding COVID-19 Related Behavioral Changes Through Twitter

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BACKGROUND

Surveys, mobility data, and online search data have been used to study how people have taken (or not taken) precautions as the pandemic has spread. Using social media can offer a unique perspective on how people communicate about behavioral change.

What can tweets sharing COVID-19 related behaviors tell us about how people have responded to the pandemic?

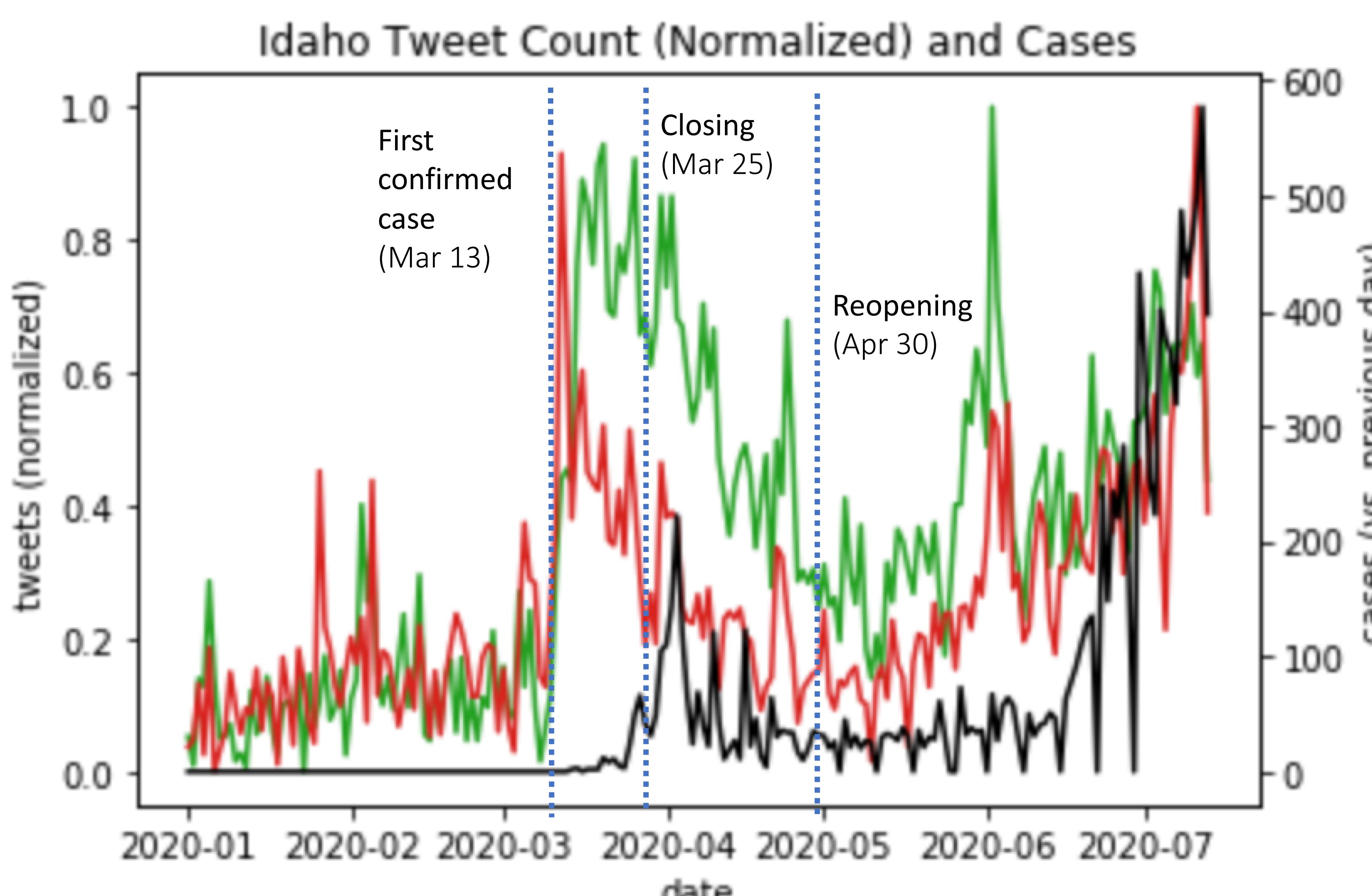
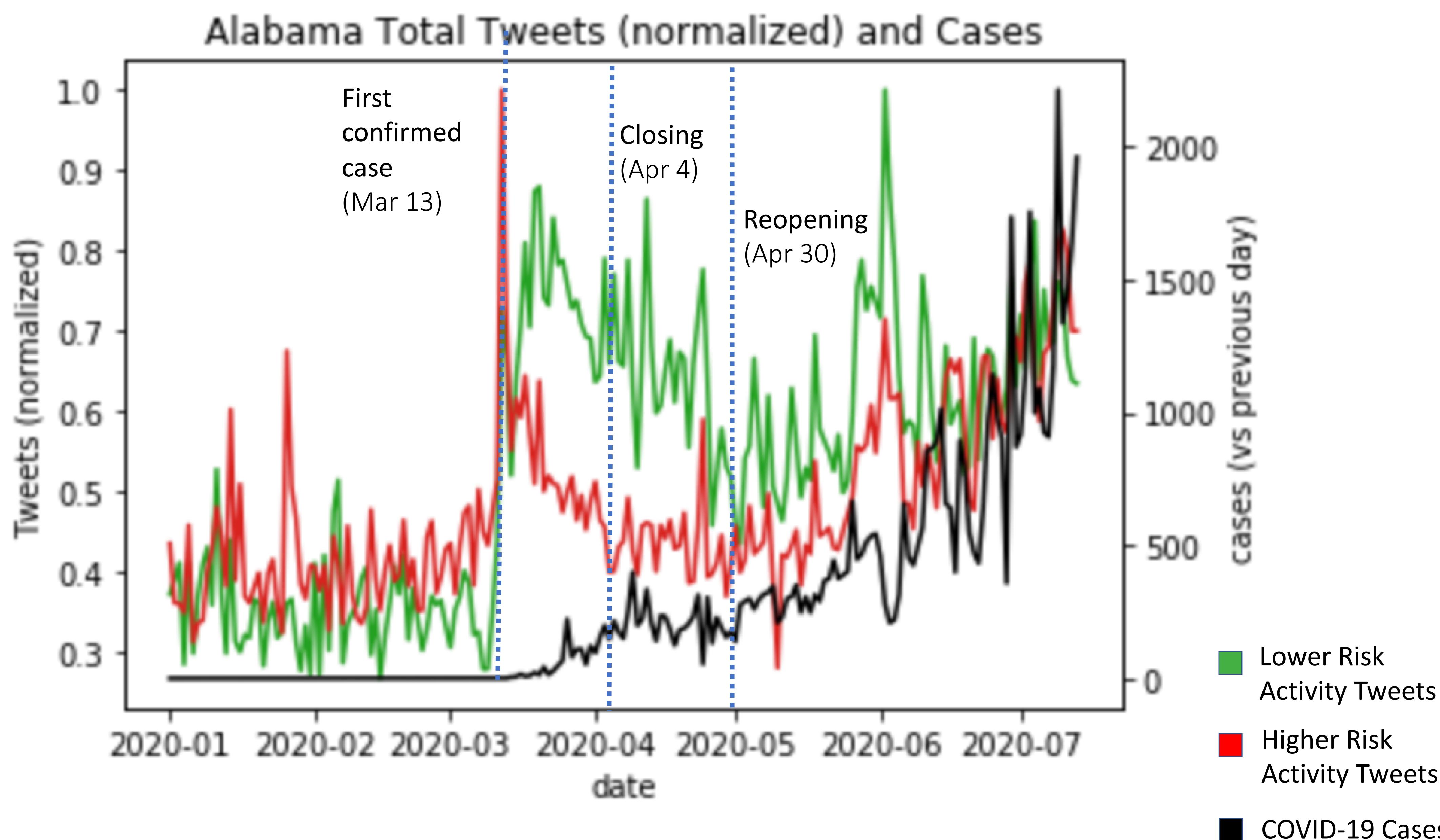
METHODS

1. Created timelines of state opening/closing orders and first cases.
2. Collected a 10% sample of 2020 tweets from January 1st to July 14th using decahose.
3. Developed lists of lower and higher risk activities related to COVID-19.
4. Compiled list of users that have tweeted from a state once, and collected all tweets.
5. Used Python script with NLP to pull tweets that contained at least 1 of the keywords or phrases from step 3.
6. Constructed timeseries plots using data from the COVID Tracking Proj.



Twitter can show how people have talked about activities with different risk levels during the COVID-19 pandemic.

In Idaho & Alabama, 2 states with similar closing/re-opening timelines, the relative frequency of tweets about less risky activities is higher than risky activities after closure. As cases rose after reopening, the gap between the frequencies narrowed. [#PreliminaryResults](#)



FUTURE WORK

- Use machine learning to classify tweets
- Statistical analysis using interrupted time series
- Study on national & global basis

HIGHER RISK ACTIVITIES

- Going out
- Traveling
- Commuting
- Going to work
- Going to school
- Playing sports

LOWER RISK ACTIVITIES

- Staying at home
- Entertainment
- Remote working
- Using social media
- Video calls
- Handwashing
- Cleaning

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