

# Community Distress and COVID-19: A Study of Bronx County Older Adults' Emotional Well-Being

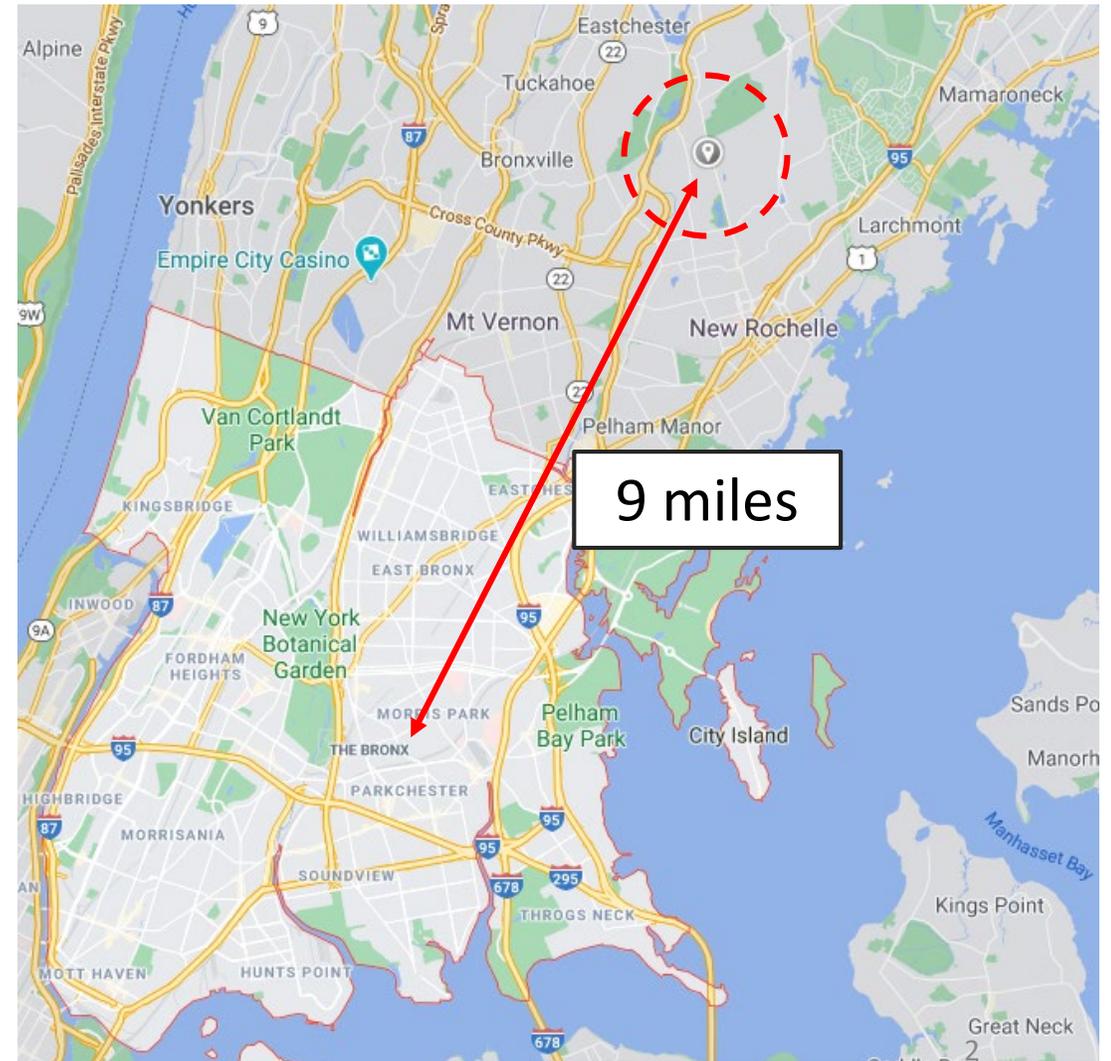
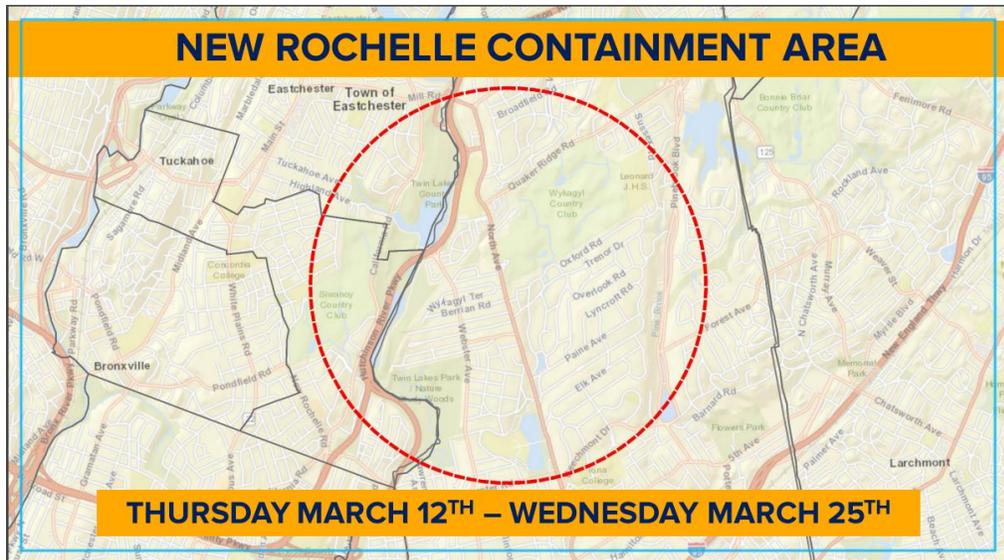
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# Timeline of early events

- **March 1<sup>st</sup>**: First case in New York City
- **March 3<sup>rd</sup>**: First confirmed COVID-19 case in Westchester County
- **March 12<sup>th</sup>**: New Rochelle establishes a containment area
- **April 15<sup>th</sup>**: Over 8,000 new cases in NYC



# Einstein Aging Study (EAS)

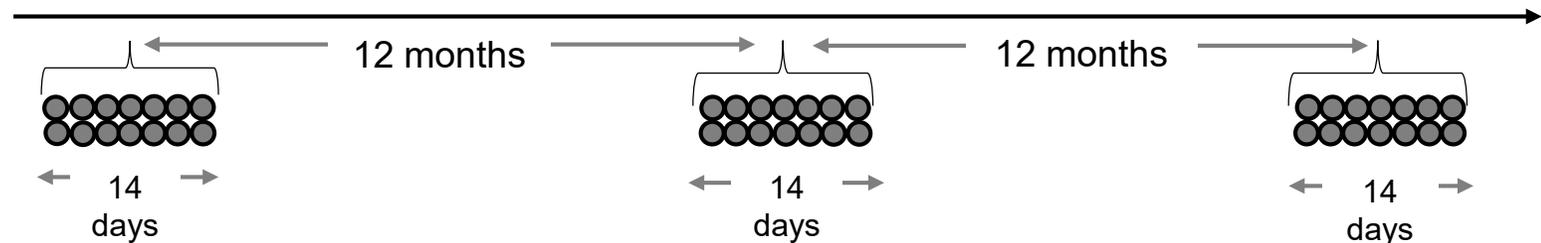
- Ongoing longitudinal study of older adults living in Bronx County
  - Data collection began in 2017
  - Age range: 71-94
  - Mean age: 77
- Measurement burst design
  - 14-day ecological momentary assessment (EMA) period at each burst
  - Self-report surveys are completed 6 times per day for 14 days
  - Approximately 1 year between bursts
- Opportunity for a natural experiment among a demographically and geographically at-risk sample
  - Do participants report worse emotional well-being during the COVID period ***relative to what they reported when we asked the same questions before COVID?***

# Advantages of measurement burst design

- Sensitive to state changes
  - e.g., fluctuations in emotions during the day
- Limits retrospective bias
- Patterns within each day and across the 14-day burst can be compared with later bursts

The figure shows three mobile survey screens, each with a yellow header and a grey footer containing 'PREVIOUS' and 'NEXT' buttons.

- Screen 1: RIGHT NOW...** The question is "Do you feel DEPRESSED/BLUE?". Below the question is a horizontal slider with a blue dot and a grey triangle above it. The left end is labeled "not at all" and the right end is labeled "extremely".
- Screen 2: SINCE THE LAST SURVEY...** The question is "Have you had any social interactions?". Below the question is a note: "(An 'interaction' is talking or spending time with someone in person, by phone/computer or by texting.)". There are two radio button options: "Yes" and "No".
- Screen 3: ABOUT THIS RECENT INTERACTION...** The question is "Which of the following BEST describes this recent interaction?". There are four radio button options: "Pleasant", "Neutral", "Unpleasant", and "Both pleasant and unpleasant".



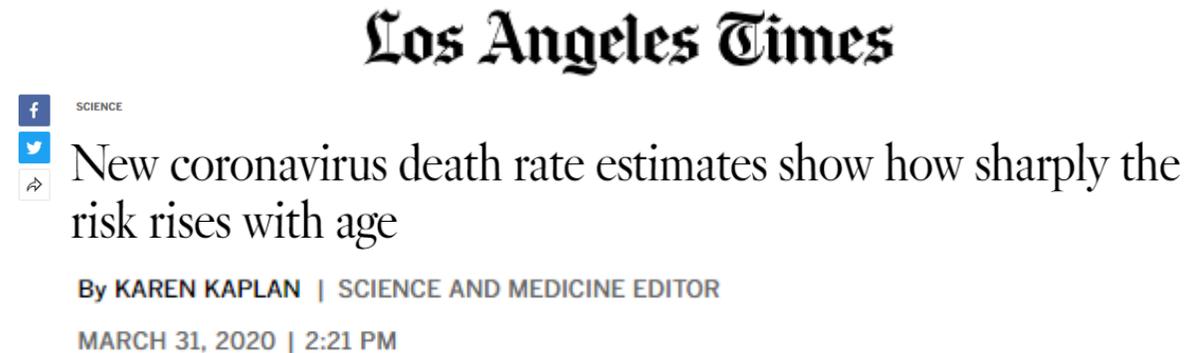
# Research question

- How was participants' emotional well-being impacted during the COVID-19 outbreak?



The screenshot shows the top navigation bar of the World Health Organization website. It includes the WHO logo, the text 'World Health Organization', and regional links for 'South-East Asia' and 'Indonesia'. Below this is a blue navigation menu with options: 'Home', 'Health topics', 'Our work', 'News', 'Emergencies', and 'About us'. The 'News' tab is highlighted. Below the menu, the breadcrumb trail reads 'Home / News / Detail / Media Statement: Knowing the risks for COVID-19'. The main heading is 'Media Statement: Knowing the risks for COVID-19' with social media sharing icons to its right. Below the heading, the date '8 March 2020 | Statement' is displayed.

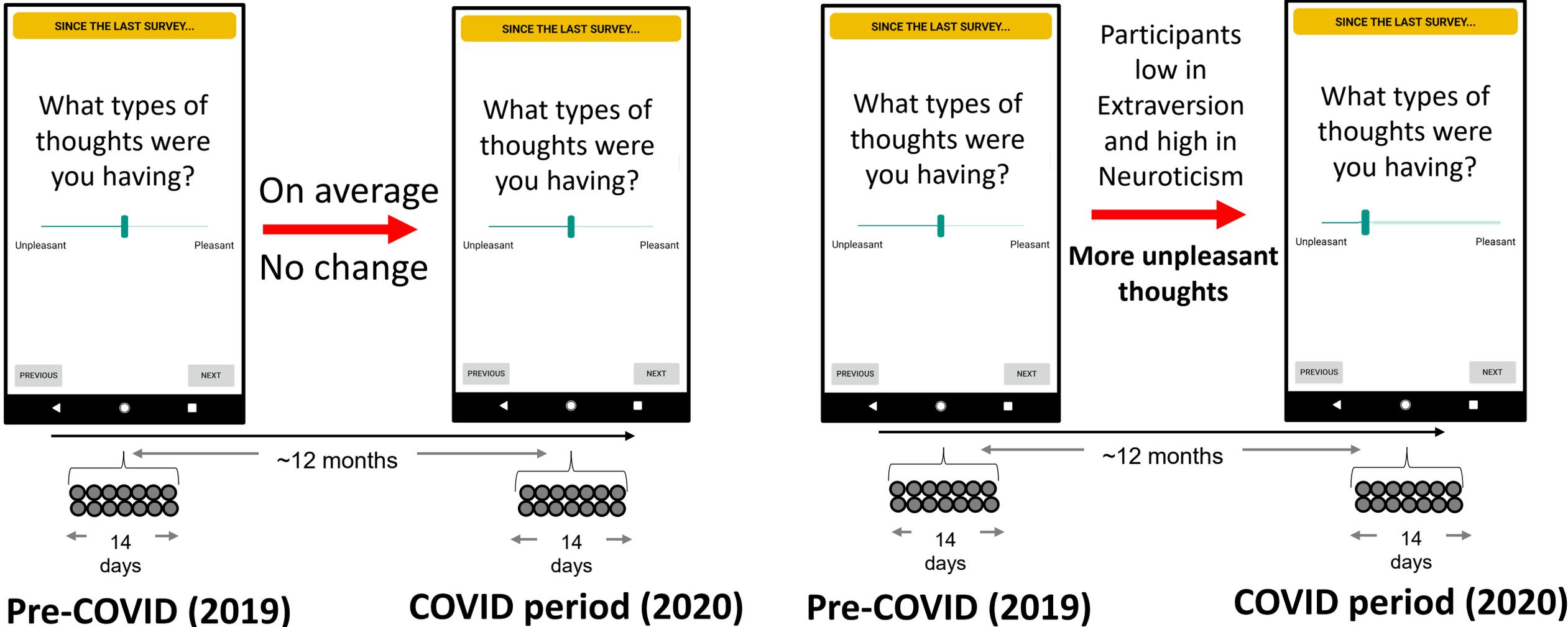
People who are aged over 60 years and people who have underlying medical conditions such as diabetes, heart disease, respiratory disease or hypertension are among those who are at greater risk of developing severe or critical illness if infected with the virus.



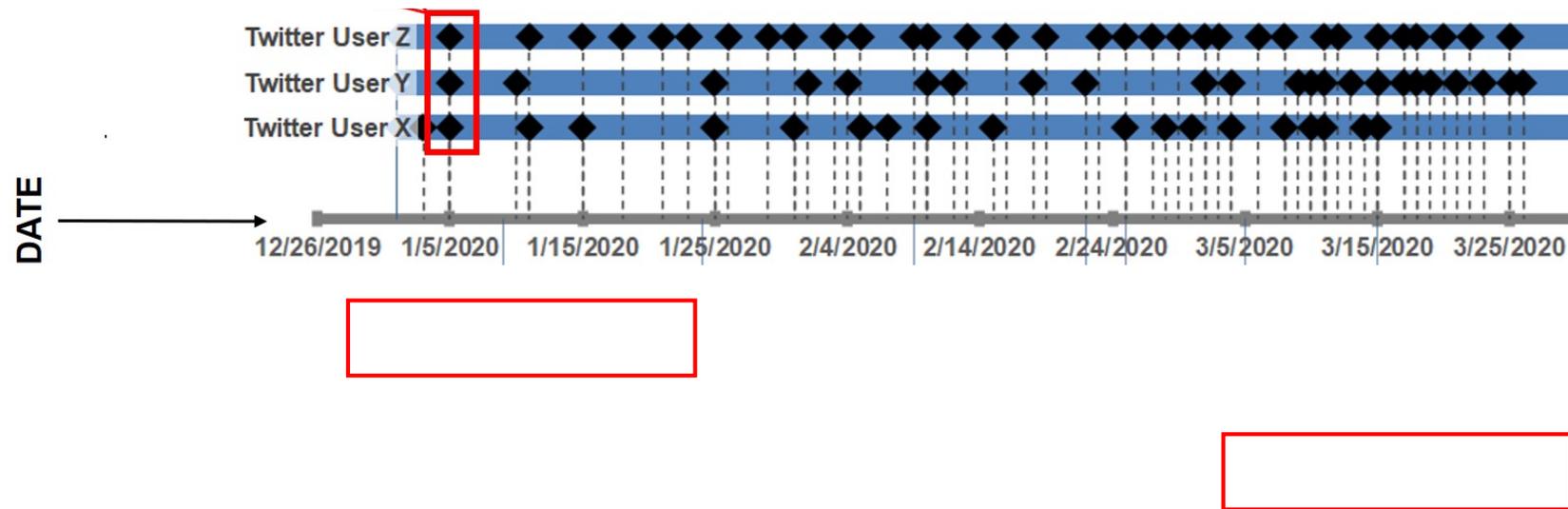
The screenshot shows the top of a news article from the Los Angeles Times. The newspaper's name 'Los Angeles Times' is prominently displayed in a large, black, serif font. Below it, the word 'SCIENCE' is written in a smaller, blue, sans-serif font. The article title is 'New coronavirus death rate estimates show how sharply the risk rises with age'. Below the title, the author is listed as 'By KAREN KAPLAN | SCIENCE AND MEDICINE EDITOR'. At the bottom of the article preview, the date and time are given as 'MARCH 31, 2020 | 2:21 PM'. On the left side of the article preview, there are social media sharing icons for Facebook, Twitter, and a share icon.

# Preliminary analyses

## Relative to participants' own past reports



# How to Measure the Unfolding Pandemic?



# Why take this approach?

- Greater specificity
  - Analyses of Twitter posts can be used to characterize the community and context around participants during a given 4-week period
  - Sensitive to the rapid changes among the community, especially during the early days of the pandemic
- In preliminary analyses we saw differences in emotional well-being related to personality traits
  - Stay-at-home orders or limited social interactions may have impacted people differently depending on personality traits
- How might personality traits be related to COVID policy changes, the spread of the virus across the country, and the social and political climate of the past 7 months?

# Thank you



- Dr. Sean Clouston
  - Program in Public Health
- Dr. Andrew Schwartz
  - Dept. of Computer Science
- Dr. Stacey Scott
  - Dept. of Psychology



- Dr. Karra Harrington
  - Center for Healthy Aging
- Dr. Ruixue Zhaoyang
  - Center for Healthy Aging



UNIVERSITY OF  
CENTRAL FLORIDA

- Dr. Nelson Roque
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Albert Einstein College of Medicine

- The Einstein Aging Study team and participants

# Questions?

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Scott Lab website: <https://you.stonybrook.edu/scottlab/our-team/>

# Analysis plan

- Lexical analysis of publicly-available Twitter posts in Bronx and Westchester counties as community indicators
- Examples of community indicators
  - Affect words including valence and intensity
  - Social relationships including discussions of family and Twitter replies to posts
  - COVID specific topics such as testing and symptoms
- Twitter posts in 2019 will be used as a control and posts in 2020 will be used to measure community indicators during the COVID period
- Align community indicators on a monthly basis to when participants completed EMA assessments